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FULL TEST
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YES! IT'S ALL TRUE

HOW-TO
20+
Tips For Better Photos

HOT BUYS
8 DSLRs Battle For Top Honors

PHOTOSHOP
New Skills Step-By-Step

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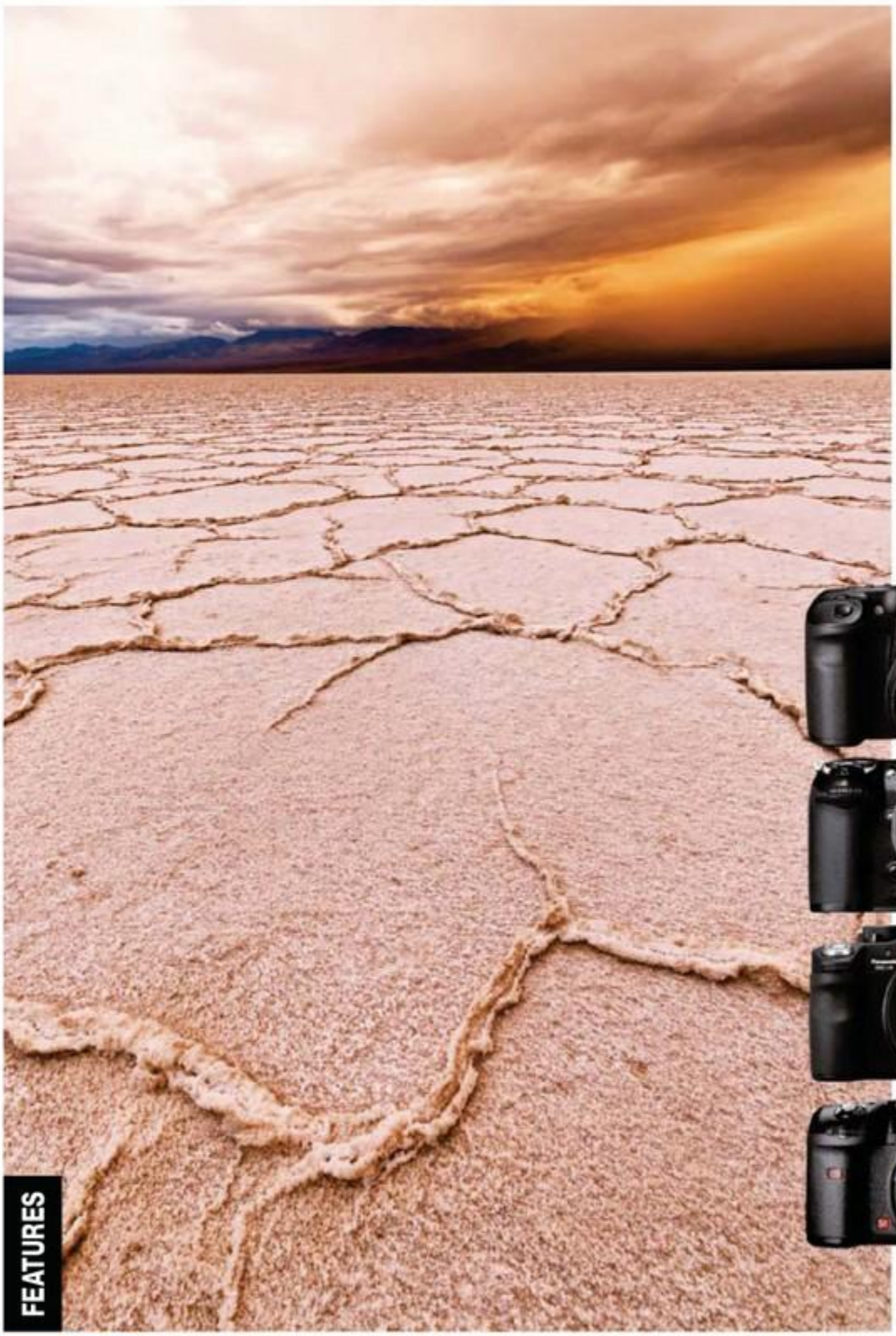

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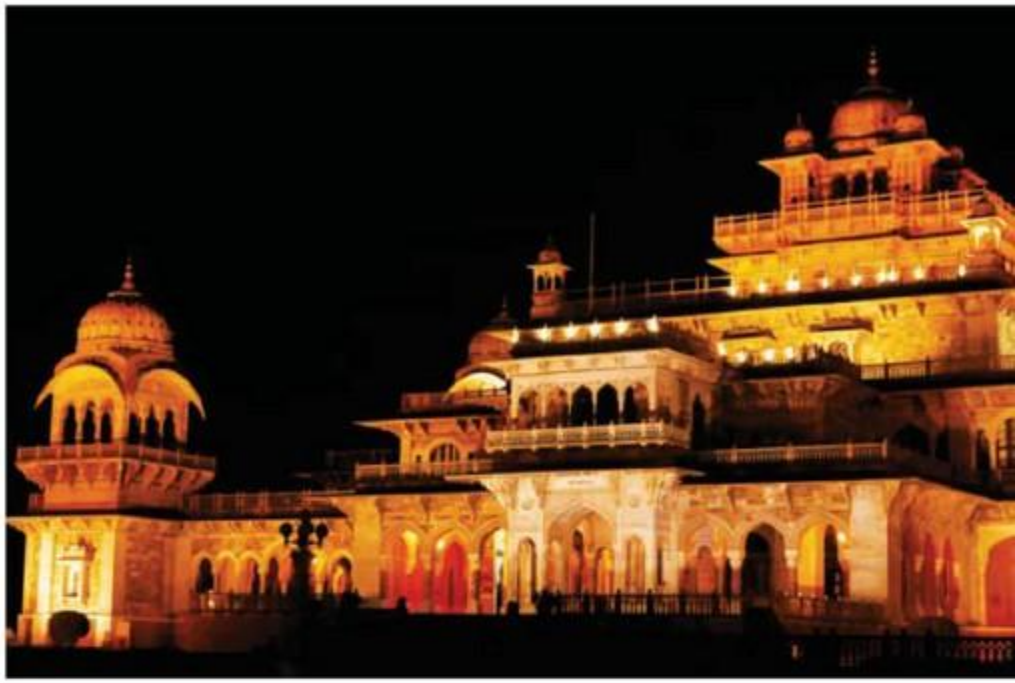
PREVIOUS PAGE: ED NUÑEZ (LANDSCAPES); TONY CORBOZA (CANON). THIS PAGE: MARK SNYDER (UNDERWATER).

NIGHT SHIFT



As a professional photographer, I enjoy shooting night scenes, such as this image of the Albert Hall in Jaipur, India (right). Many photographers think that long exposures like this are difficult. They're not. But I have learned the hard way what works and what doesn't:

■Scout and mentally frame the photo during the day.

■A tripod and cable release are prerequisites.

■Trust the LCD when reviewing each shot. I find it works very well.

■Watch the foreground. This building has metal barricades in the front that would be very distracting in a photo. Although not normally lit, the barricades would be illuminated by the lights of passing traffic in a long exposure. And since they're square rods, one edge would be vulnerable to ugly reflections. So I got a high view to crop out the barricades and traffic.

■Keep the ISO as low as you can. In terms of beating noise, I find that a longer exposure is better than a higher ISO. I shot this at ISO 400, f/9 at 1/2 sec on my Nikon D100.

■Keep the camera cool. It's another noise-fighter. I kept my DSLR in my air-conditioned car until I was ready to shoot.

■You can cut noise, but not eliminate it. I used Neat Image software in postprocessing to clean up the black.

D.K. Bhaskar
Bangalore, India

Friend or Faux?

Neal Matthews' article ("Real or Fake?" September 2007) was very interesting, informative, and scary. After seeing that the imposter card you showed had a squared-off metal plate behind the label, I checked my CompactFlash cards. What?! Every one has a squared-off metal plate behind the label. Are they all counterfeit? They're working just fine.

Billy Rozakis
Herndon, VA

The squared-off plate was the tip-off in that case. But not always. Details on legitimate products change all the time. The best way to protect yourself from counterfeits? Know your source. An online auction with crazy-low prices is probably—almost certainly—dealing in fakes. Do imposter cards work? Often, yes. But you don't want to bet your photos on them.

Optic Options

Will all of the features on the AF lenses that work on my Nikon D50 work on the Nikon D40x?

Earl Newman
Milwaukee, WI

For the autofocus to operate on the D40x, the lens must be an AF-S (or equivalent). Others will work, but not their autofocus. Unlike other Nikon cameras, the D40 and D40x don't have an AF motor built into the body—the lens has to have a motor, as with Nikkor AF-S and most Sigma lenses with HSM motors.

Smile and Say Stuffed

Zoos are great for those of us who can't pull off a photo safari to Africa ("The Safari Next Door," September 2007). Here's another source for dramatic wildlife shots: local taxidermists. (I always offer them prints in return.) These photos don't require hiking miles or laying in wait for hours. Though when I'm asked about this coyote shot, I always start by telling how I tied a pork chop around my neck and lay in the grass…

Jim Hoffman
Montgomery, NY
www.anaturalsight.com

D.K. Bhaskar (Albert Hall); Jim Hoffman, www.anaturalsight.com (coyote)

GET IN TOUCH! *Write to us at Letters to the Editor, Popular Photography & Imaging, 1633 Broadway, New York, NY 10019; or e-mail PopEditor@hfmus.com.*

By John Owens

THE 24-CENT SCAN

How to outsource a chore

"This is too good to be true," I said to myself, when I met Sam Allen at a restaurant in Santa Monica, CA.

Allen told me that his 18-month-old start-up, ScanCafé, would digitize negatives for 19 cents apiece, and slides for 24 cents.

"Yeah, right," I said. "The going rate is around a buck, and often you pay more."

That's why most of us with hundreds—if not thousands—of analog images do it ourselves. In fact, my July Editorial was loaded with tips for the high-volume scanning DIYer.

But Allen insisted that ScanCafé scans each slide and neg individually at 3000 dpi on a Nikon Coolscan 5000 ED. Plus, there's Digital ICE automatic scratch and dust removal, as well as a bit of manual clean-up in Adobe Photoshop. Also, the files would be burned to a DVD, and all the original material safely returned to me.

"C'mon," I said. "Gimme a break!"

But Allen is a dead-serious former Marine with an MBA from the Wharton School, and he seemed quite sincere.

Then he mentioned India, and it all became clear—Allen would be shipping my priceless images off to India, and in exchange for the risk, I'd get cheap scans.

But before I could get up to leave, Allen began explaining that the India connection was really the beauty of this business.

Unlike operations in everything from manufacturing to customer service that are outsourced to lowest-bidder contractors in the developing world, ScanCafé has its own 165-person staff and its own facilities in India, managed on a day-to-day basis by an Indian-born Wharton grad.

I took the bait.

Using my wife's credit card and name (not Owens), I registered at www.scancafe.com. Then I stuffed 365 sleeved slides into a box. Pulled from my attic, these slides were Kodachrome, Ektachrome, and Agfachrome from the early 1970s to mid 1990s. Some were pristine, others fairly dirty. I printed out a UPS Ground label from the ScanCafé site, taped it to the box, and handed the package over to the guys in brown uniforms. The box went to ScanCafé's California facility. They sent my wife an e-mail when it arrived, and charged her credit card for shipping and half the scanning cost: $52.64.

Forty days later, an e-mail announced that the scans were posted. That is, they were available for review on the ScanCafé site. Looking them over, I could decide which to take and pay for. That's right—only after they're scanned do you have to commit; ScanCafé lets you dismiss up to half the scans. But I can't resist a bargain, or my own photos, so I bought them all.

Soon after, UPS delivered a package containing a DVD of the scans and all of the slides returned to their original sleeves.

The attention to detail was impressive. And so were the scans. JPEGs averaging 2700KB, they were at least as good as I would have done. And the dust and dirt that marred some of the original slides were gone in the files. Nice.

Elapsed time: 61 days. Total cost: $105.46

In all, I'm a believer. So now, when Allen says his operation can do pro-caliber work (make 4000-dpi scans of slides and negs, serve up TIFFs), scan prints at 600 dpi for 27 cents (1200 dpi for a little more), clean up b&w negatives (typically a challenge for Digital ICE), and guarantee that my pictures will make it back from India, I don't doubt him.

Ask JOHN Q

Can I really increase the reach of my DSLR's lenses with a teleconverter? As I understand it, putting a $200 1.4X teleconverter on my 300mm turns it into a 420mm lens.

A Yes, it will. But you'll give up at least 1 stop at wide-open. So your f/4 lens will now be an f/5.6. And at that small aperture, autofocus might not work as well. But if you're okay with manual focus and a limited exposure range, it's a compact and fairly low-cost alternative to buying a longer lens.

BORISLAV GNEDIC/FOTOLIA.COM (LANDSCAPE)

GEAR

The Price is Right

All the competition in compact cameras is great for photographers—we get more features for less money. Take Fujifilm's new FinePix A920. **●HOT:** $200 street price, 4X optical zoom, 9-megapixels, IrSimple wireless transfer so you can send your images to other cameras, as well as to PDAs and photo kiosks. **●NOT:** Highest ISO is 800, which is good, but why not go up to ISO 1600, as on other Fujifilm's cameras? (www.fujifilmusa.com)

DARREN BAKER/FOTOLIA (LCD IMAGE)

Instant Gratification

Want to be the hit of the party? Bring along Hewlett-Packard's Photosmart A626 Compact Photo Printer ($179, street) the next time you go out with friends, and hand out instant souvenirs. **●HOT:** More than 200 options include frames, graphics, and effects that are a scrapbooker's dream. At 4.8 inches, the touchscreen LCD is pretty neat, with its 3.5-inch picture area. It prints lots of sizes, including 5x7 and panorama. Wireless and Bluetooth connections are optional. **●NOT:** Stock up on ink—it comes with only an introductory cartridge that prints 10 to 20 shots. (www.hp.com)

Wireless is More

What if offloading your shots were as easy walking in the front door? That's the idea behind the Eye-Fi Card, a wireless 2GB SD memory card ($100, estimated street). **●HOT:** Transfers shots from any digital camera to a PC, Mac, or online photo site automatically when the camera is within receiving distance of your configured computer. **●NOT:** Your camera has to be on while the photos are transferred, so expect battery drain. (www.eye.fi)

HOW TO...

Learn About Yourself

There's no shortage of sites for uploading and rating photos, but one, www.likebetter.com, will tell you what your preferences say about your personality. Click though a couple of choices, and the brain at the bottom of the page will glow pink, then produce uncannily accurate interpretations.

Tint Your Flash

Sometimes the simplest ideas are the most brilliant. Take Sticky Filters. For $50 (direct from www.stickyfilters.com) for two sets of standard-size filters or $30 for two sets of small filters, you get basic color gels that can be cut to stick on any flash or light, and will match the color of your flash to the light in the room. The best part? Lifetime replacement.

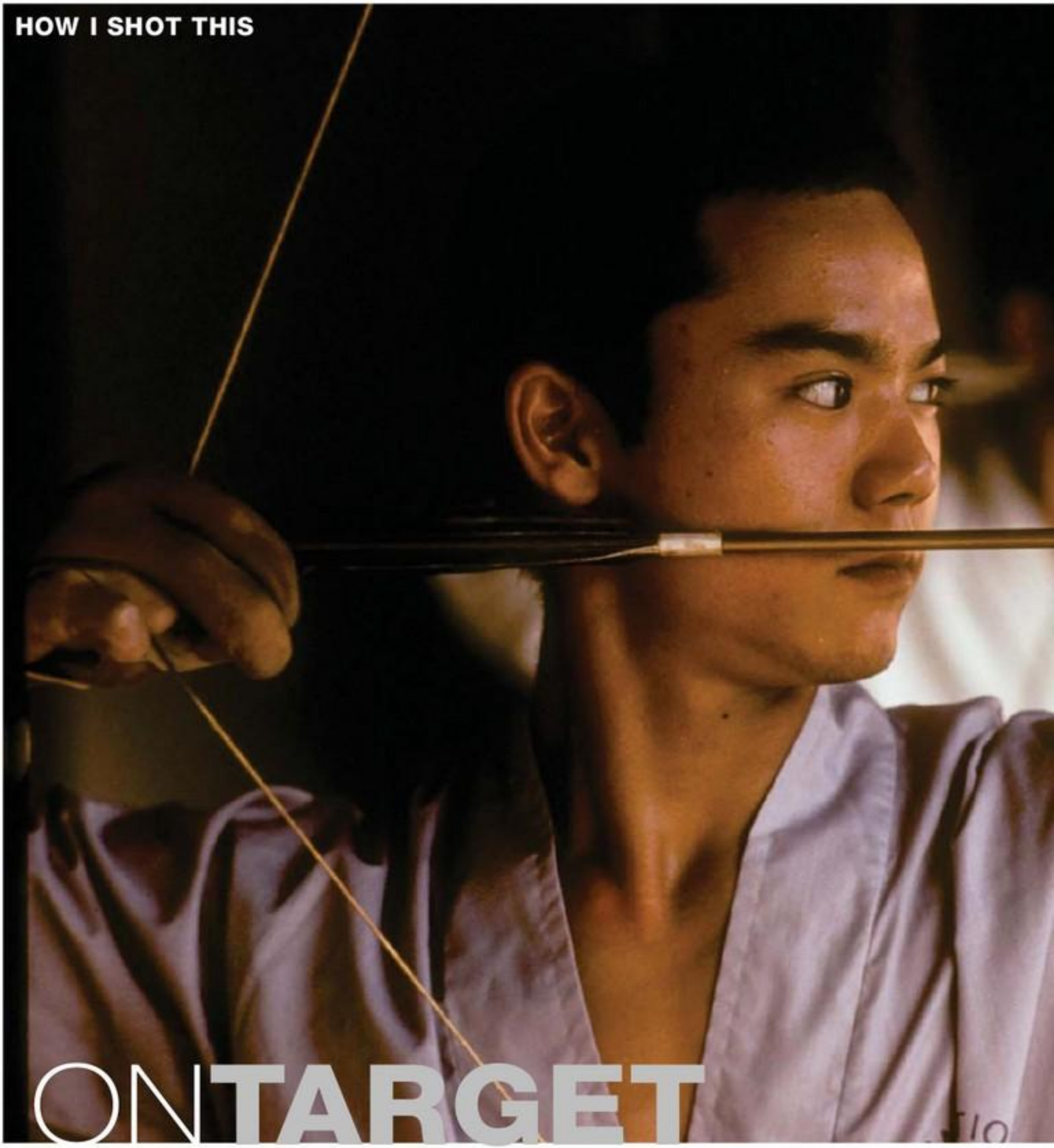
1. Gitzo GT2330 Decades come and go, but the timeless Gitzo aluminum tripods change little. So it's a big deal when Gitzo makes major changes as it does in its new Series 2 tripods: a brushed, matte-black surfacing; light, but tough, basalt center column; and a new system for getting to ground-level. (To go low, unscrew the head plate from the column, and reattach it to the leg yoke.) The result: center-column-free shooting. The 3.9-pound GT2330 ($300, street; $462 with G1277M Magnesium 2 head, as shown) also has a retractable center-column ballast hook, spring-activated leg releases, and a wide selection of accessory feet. (www.gitzo.com)

2. Induro CX213 This is one of the few tripods to offer both the lightweight convenience of carbon fiber and horizontal center-column capability—making it useful for nature close-ups, copy work, or any other job that requires shooting straight down. Unlike many horizontal columns, though, this one locks at all intermediate positions between horizontal and vertical. Other highlights: nonrotating leg sections; a retractable, spring-loaded center-column ballast hook; and dust- and moisture-sealed rubber-grip leg locks. Rising to 63.6 inches, the 4-pound CX213 ($397, street, $602 with DM-12 head, as shown) claims a load capacity of 17.6 pounds. (www.indurogear.com)

3. Manfrotto 190XPROB While several tripods have center columns that swing both ways, horizontally or vertically, none makes the transition as smoothly as Manfrotto's 190XPROB ($145, street). You extend its center column completely and it flips sideways and locks horizontally. The 190XPROB also accepts accessory heads (shown here with the 804RC2: $213, street, for head and tripod together), offers foam leg warmers, rises to 62 inches, and weighs only 4 pounds, while boasting a load capacity of up to 11 pounds. (www.manfrotto.com)

4. Slik Pro 580 DX If you're a photographer who shoots exclusively in manual, crops only in-camera, and spends weekends memorizing depth-of-field tables, Slik has your tripod. The simple, straightforward, and gimmick-free Slik Pro 580 DX ($200, street, with head) is a solid, no-frills workhorse that will probably outlive you, even if your name is Methuselah. Unusually light for a metal tripod, it's made of an aluminum, magnesium, and titanium alloy, steady enough to support a DSLR and 300mm f/2.8 rig, but weighing less than 6 pounds. Want more? Slik's equally rugged 780 DX costs just 10 dollars more, yet rises over a foot taller (to 77 inches) and has a 15-pound load capacity. (www.thkphoto.com)

5. Sunpak 9002TM Heading out to shoot and can't decide whether to bring a tripod or monopod? With the 3.3-pound Sunpak 9002TM tri/monopod, you get both. Its center column pulls out to become a five-section monopod—perfect for spaces too tight for a tripod and situations requiring the extra mobility of a monopod. Other features: three-way pan head with quick-release plate and bubble level; D-shaped, nonrotating leg sections joined by a central leg brace; and rubber leg tips with retractable spikes. The 9002's most remarkable feature? Its street price: $43. (www.sunpak.com)



ON TARGET

A third-generation Japanese-American, Michael Yamashita, 58, got his start in photography when he headed to Japan after college to study his roots. Although he initially picked up a camera to share his experiences with friends and family back home, he was soon hooked, and a few years later he got the plum job of traveling for a year shooting for Singapore Airlines. Upon his return to the States, he began photographing for *National Geographic*. These days he's out on assignment about six months of the year.

Q. What are we looking at?

A. I was doing a story for *National Geographic* on Japanese-Americans. This was at the International Zen Dojo at the Chozen-Ji Temple in Honolulu. It's kind of a Zen temple that brings in martial arts as part of the training of monks-to-be. In Zen

PHOTOS BY MICHAEL YAMASHITA; INTERVIEW BY DEBBIE GROSSMAN

Zen and the art of photography

archery, it's form that's important—it's not about the aim. If your form is perfect, the arrow should hit the target. Kind of like with photography.

Q. Why this angle?

A. First, I got an overall picture, and of course there was a lot of stuff in the background. Anytime you shoot an activity, you're going to need to try a lot of different frames and angles. You're looking for that one frame that shows it all, but to get to it you have to shoot around the edges. You're sort of investigating by shooting until—boom!—you see the picture you want.

THE OUTTAKES

1. Close, but not quite right; without the white arm to set off the arrow, it gets lost in the background clutter.
2. The repetition of the forms begins to work, but there are still too many distracting elements in the frame.

Q. What makes this shot the best of the set?

A. Partly, it was just photographer's luck. The guy in the back happens to be wearing white. This, combined with the repetition of their arms, just rivets your eye on the guy in the foreground, with his concentration and muscle strain. That bow is not light.

Q. What camera and lens did you use?

A. I was shooting the Nikon F3 in those days. It was film, of course—Kodachrome. Probably a 180mm f/2.8 lens, which is one of my favorite lenses. It gives you that very nice, out-of-focus, sharply undefined area in the background. That's the wonderful thing about a fast telephoto.

Q. Are you all digital now?

A. I switched last year. There was certain discipline to shooting film—not that I ever skimped on film. Now it seems like my finger is constantly on the shutter button. I resisted changing to digital because I hated the computer. Used to be, when the light went down low, I'd hang up my cameras and look for the best restaurant. Nowadays, I go back to my hotel and start downloading.

1st Place

Heavenly View KAH KIT YOONG, 34, a doctor from Melbourne, Australia, discovered photography just two years ago. He specializes in travel and landscape photography, and took this rich shot of the Duomo (cathedral) of Siena, Italy, on a recent trip. Since tripods aren't allowed inside, Yoong had to steady his camera on a chair and use a self-timer to get the star effects with a long exposure. View more of his work at www.magichourtravelscapes.com. **Tech info:** Canon EOS 5D with 24–105mm f/4L Canon EF lens. Exposure, 5 sec at f/11, ISO 50. Levels, saturation, and sharpening adjusted in Adobe Photoshop CS2.

Text by Kathleen Davis

2nd Place

Jump Shot Former photography instructor Valerie McAninch, 49, returned to school last year to study graphic design. So it's no surprise that the graphic element of the bungee jumpers at her local county fair in Springfield, OH, caught her eye. To get the shot she wanted—two bodies jumping—she had fired many frames, and she even returned the following night to photograph again. **Tech info:** Canon EOS Digital Rebel XT with 18–55mm f/3.5–5.6 Canon EF-S lens. Exposure, 1/2000 sec at f/3.5, ISO 100. Converted to black-and-white and curves adjusted in Adobe Photoshop CS3.

3rd Place

See Worthy

"One good thing about photography is that you can do what you love while spending quality time with your family," says 33-year old CLAUDE ROBIDOUX, a train service attendant from Coquitlam, British Columbia, Canada. He was visiting the Vancouver Aquarium with his wife and daughters when he took this picture of a sea lion swimming. **Tech info:** Canon EOS 30D with 70–200 f/2.8 Sigma lens. Exposure, 1/500 sec at f/2.8, ISO 400. Converted from RAW and color adjusted in Adobe Photoshop Lightroom.

NATURE

DEEP FOCUS

A diver lights up the world below the waves

When Mark Snyder gives a seminar on his techniques of underwater photography, he rarely talks about underwater gear or the habits of sea creatures, or even about getting in the water. He talks about photographing an egg.

And when he talks about the greatest influence on his work, he doesn't mention an underwater shooter or even a general nature photographer, but…Yousuf Karsh, the famed studio portraitist.

It makes sense, really: Snyder is essentially an underwater studio photographer. As such, he wonders why so many dry-land studio photographers who know all about multiple-light setups seem to forget everything about it when they go diving. "They use one strobe on the camera, aimed straight ahead," he says.

This produces the pictures Snyder disdains as "the orange and blue shots"—the flatly lit orange coral in the foreground, the relentless blue of the dark water beyond.

Snyder picked up the basics of underwater shooting from Maria Hults and Bob Ricke, the couple who started him off in diving. Ricke also showed him a book of Karsh's portraits, which proved an epiphany for Snyder.

Karsh was a master of light positioning, particularly, feathering—using the very edge of a cone of light, skimming rather than flooding the subject with illumination. Snyder usually uses this for main lights. "This small band of light is warmer and softer, and it has the quality of the first or last half-hour of

TURTLE AND HONEYCOMB MORAY, SOUTH MALE ATOLL, MALDIVES: Main strobes **(A)** cast the outer rim of the cone of light on subjects. Fill **(B)** also feathered and set to –3 EV. Contrast strobe **(C)** aims at right angle to lens axis for contrast and texture. Nikon D2x, 20mm f/2.8 AF Nikkor lens in Nexus housing, Inon Z-220 strobes. Exposure, 1/125 sec at f/5.6, ISO 400.

Text by Dan Richards, photos by Mark Snyder

BIGEYE SOLDIERFISH, RASDU ATOLL, MALDIVES: Main lights **(A)** paint with the outer rim of the cone of light; fill strobes **(B)** are feathered counter to direction of the mains and set to –3 EV to soften shadows. Nikon D2x with Sigma 15mm f/2.8 lens in Nexus housing, four Inon Z-220 strobes. Exposure, 1/100 sec at f/5, ISO 400.

daylight—magic light," he says.

His fill lights are usually feathered, as well, although in a different direction. And he uses lights at a 90-degree angle to the lens axis to add contrast to nearby features—think sidelighting in landscape photography. Involved? Snyder may work for an hour on one shot.

Though he has a background in serious photography (he studied at New York's School of Visual Arts), Snyder had been away from it for some time when he took up diving. "For two years I had no intention of photographing under water," he says. "I watched people with the Nikonos system with the frame finders, and it seemed like too much work."

Then came the moment while diving in Cozumel, Mexico, when he found himself in the midst of migrating eagle rays. "Eagle rays are among the most beautiful and graceful animals in the ocean, but very shy, and I had seen only one at a time on rare occasions," he recalls. "On three dives [in Cozumel] we saw over 120. I wanted to find a photograph to remember it—but found there were none."

When he got back home, he went shopping for an underwater rig.

Snyder, convinced that digital was the way to go, began with a 4MP Olympus C-4040 zoom camera with an underwater housing. By the time digital SLR equipment entered the mainstream of underwater photography, Snyder had won a number of awards and was ready to move up.

Learning good lighting techniques is best first done on dry land, and that's where the egg photography comes in (see sidebar on page 34). Beyond that, Snyder has these suggestions for going deeper than underwater point-and-shooting:

■DEVELOP DIVING SKILLS. "For photography the most important skill is buoyancy control—the ability to hold yourself in a stable position in the water," Snyder says. Most underwater photography is close-up work, and adjusting focus may mean moving the camera back and forth by fractions of an inch—while staying motionless in the water.

■PREDETERMINE LIGHTING SETUPS. While sometimes you may have a cooperative subject that will stay still long enough for you to adjust lights, sometimes you won't. Snyder will find an underwater area similar to the one he wants to shoot at, and set up his lights there.

NEEDLEFISH, WAKATOBI DIVE RESORT, INDONESIA: One main strobe combined with a fill strobe set to –3 EV and a contrast strobe firing 90 degrees across the fish. Nikon D200 with 60mm f/2.8 Micro-Nikkor lens in Sea & Sea housing, three Inon Z-220 strobes. Exposure, 1/100 sec at f/5, ISO 400.

■SHOOT UPWARD. Photographing from below a subject makes it look large and real—shooting down makes it look smaller, and it can get lost on the background.

■SHOOT CLOSE. "Twenty-four inches is an outside working distance," Snyder says. Water can simply suck up lighting—flash falloff is much greater underwater.

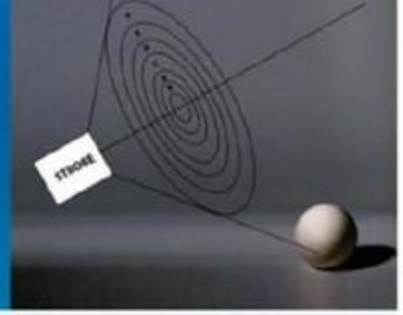
■SHOOT FOR THE SMALL REFLECTION IN THE EYES. Catchlights are important for any wildlife photography, but underwater they're particularly important for dimensionality.

■CHOOSE A PLACE AND SUBJECT AND WORK IT A LOT. "It can take many attempts to get a satisfying shot," Snyder says.

■RESPECT YOUR SUBJECTS. Snyder will pop his strobes a number of times to acclimatize creatures to it. "Spending time with an animal underwater is important, first to maybe learn something about its behavior, then to get the animal used to you and the camera," he says. "We are big in the water and perceived as a potential predator. Move slowly, and if an animal is moving, *never* chase it. Choose a spot out in the distance where you hope the animal will go, and wait for the shot to come." ✪

New York City-based Mark Snyder, 48, spends several months of the year as a consulting diver for dive boats and resorts in the Maldives and Indonesia. He frequently gives seminars on his photo techniques around the country. You can see more of his work at www.starknakedfish.com.

THE SHELL GAME



Mark Snyder with a typical camera setup with four strobes, left, photographed by colleague Moosa Hassan. To learn the effects of angled lighting, Snyder suggests simply lighting an egg with a handheld lamp from various angles to see how it changes the modeling, contrast, and even color in the egg. Try every position: straight on, directly over, from the sides, behind, below. At right, the effect at the very edge of the cone of light.

BACK TO BASICS

Understand Layers, and you have Photoshop cracked

By Debbie Grossman

Ever try to fix part of an image without messing up the rest? Want to add a bit of contrast here, a bit of color there, or a border around the whole thing? Wary of screwing up your whole picture in the process? Adobe Photoshop's Layers are the key to making a multitude of changes while leaving your original picture untouched. Master them, and you're well on your way to mastering the mother of all imaging programs.

▲ORIGINAL

▼AFTER

LUJUN GUO/FOTOLIA.COM

Grab a similar picture and follow along as I work with this photo. When you're done, you'll have an understanding of layers that will not only help you in your quest to fix parts of your own pictures, but also help you follow along with future editions of this column.

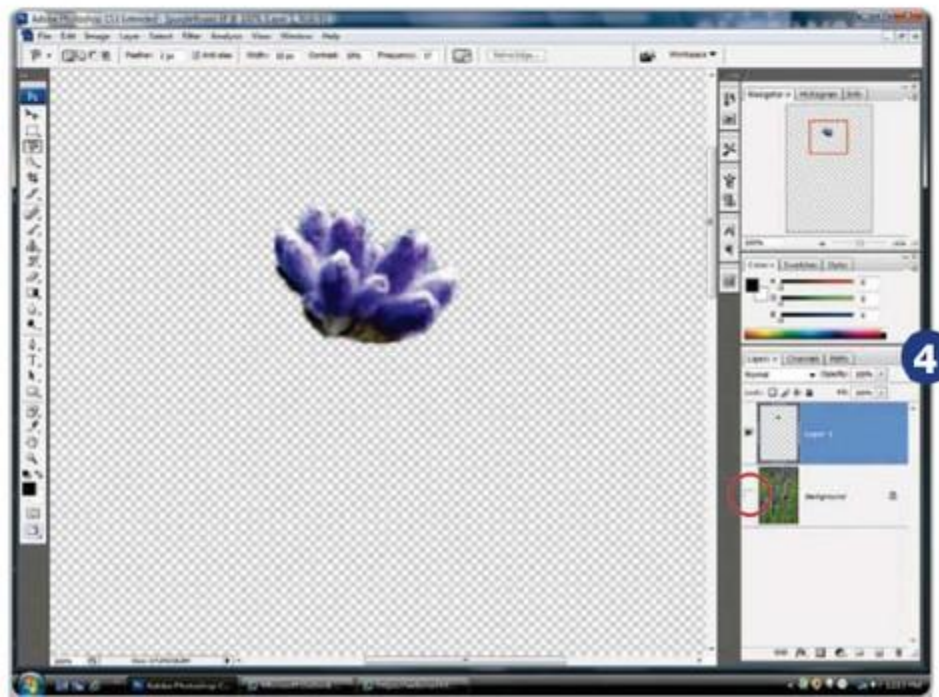
Although I used Photoshop CS3, everyone who has CS or CS2 can use this technique. Mac users should substitute all instances of the Ctrl key with the Command key. And Elements users, this works for you, too—your icons and their placement will be slightly different, but they should be easily recognizable.

1 **Let's start simply.** Grab your favorite selection tool (the Lasso works fine for our purposes), and select a part of your image. It doesn't have to be neat—we're just experimenting here. Check out your Layers palette (it'll be on the lower-right part of your screen, unless you've moved it). Note that there is only one layer, by default called Background. It is highlighted because it's selected automatically, and for now it's the only layer that we have.

2 **To change only that** little flower, we'll paste it onto its own layer. In the next step, we'll add a new transparent layer on top of the Background layer. Picture the transparent layer as a piece of clear acetate that we'll place over our picture. But first, hit Ctrl + C to copy the part of your image you selected with the Lasso.

3 **Now make that** transparent layer. Just click the New Layer button, which looks like a sheet of paper with one corner folded over (circled). In Photoshop, it's at the bottom of the Layers palette; in Elements, it's at the top. See how your new layer (automatically named Layer 1) is highlighted? That means anything you do to your image will happen only on that layer. Paste your selected flower into this layer by hitting Ctrl + V on your keyboard.

4 **After you paste** this, your image will look the same. But if you check out the thumbnail in Layer 1, you'll see the flower pasted in. To see the flower in your frame, click on the eye icon to the left of the Background layer's thumbnail (position circled). That'll hide the Background layer, and show you Layer 1 alone. Click the space where the Background layer's eye was to see the background again.



5 Now let's mess with the flower in Layer 1. Go to Image > Adjustments > Hue/Saturation. Since Layer 1 is selected, this adjustment will only affect Layer 1 and will leave the rest of the image alone. Drag the Hue slider to the right to change the color of the flower. Click OK. Just for fun, click Layer 1's eyeball on and off to reveal and hide the original flower that sits just below it on the Background layer.

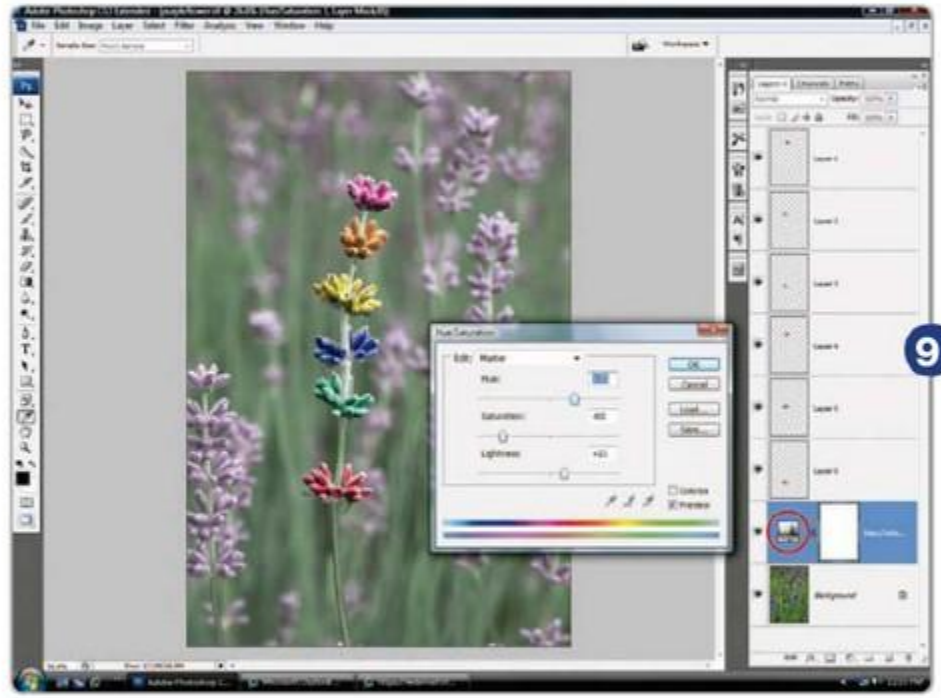
6 We'll select another part of the flower and change its color, too. Grab the Lasso tool again and make a selection. Now hit Ctrl + C again. If Layer 1 is still selected, you'll get an error message telling you that your selected area is empty. Hit OK. The reason you got the error is that, even though we can see the flower through our mostly-empty Layer 1, the information actually exists only in the Background layer. So be sure to click on the Background layer to highlight it. Now hit Ctrl + C again, and revisit Step 3 in order to paste this second flower into a new layer of its own.

7 Redo Step 5 on Layer 2, then keep repeating steps 3 and 5 until you've changed a bunch of flowers, each on their own layer. I did it six times, so now I have six layers in addition to the Background layer. Click the Background layer's eyeball to hide it and check out your Technicolor flowers. Then highlight the Background layer again.

>**QUICK TIP:** If you need to unlock the Background layer, double click on the words "Background Layer" and change its name. Then you'll be able to adjust its opacity and move it up or down in the stack, just like a normal layer.

8 Wouldn't it be cool to mute the background, while keeping the flowers in full color? Since you should never mess with your Background layer (think of it as your sacred original), we'll try an Adjustment layer. These affect the layers beneath them, but you can rework them forever. Click on the Background layer to select it to ensure that the Adjustment layer lands directly above it. Create one by grabbing the black/white circle icon (circled). From the menu that comes up, select Hue/Saturation.

9 The layer that shows up looks different, and the icon tells you that you're looking at a fully customizable Adjustment layer that can be modified at any time. Mess with Hue/Saturation until your flowers pop out of the background, and you like the way your new image looks. Click OK. If you want to go back and tweak it, just double-click the far-left side of the layer (circled) to reset the sliders. Adjustment layers are great for doing all-over corrections and, when used with masks, they too can be great for working on parts of an image.



10 Now you've got lots of layers. If you think you'll want to work on your layered file another time, go to File > Save As. You can save as a PSD or TIFF file—both can hold layers. But if you want to make a JPEG for e-mailing, you'll have to compress all those layers back down to the background. To do it, go to Layer > Flatten Image.

Since this column was meant simply to explain Layers, I stuck to the Hue/Saturation tool. But if you'd rather have, say, brightened that first flower you selected, or recovered some of the shadow detail in it, you could have used other tools instead. When you want to make any change to just a part of your image, revisit step 5, and substitute the fix of your choice.

By Michael J. McNamara

FACE FACTS

Is face detection a fad or the way of the future?

New camera systems that promise to focus automatically on the most important element of your photos—the people—are a hot trend in digital compacts. Indeed, between the TV commercials, magazine ads, and billboards, it's hard to miss the mania for face detection (also called face recognition or sensing).

Because I take most of my photos using DSLRs with autofocus and metering systems that are superior to those of digital compacts, I was at first skeptical about the usefulness of face detection. But demos by Fujifilm last year, and more recently by Canon during a trip to its research center in Tokyo, made me reconsider.

Fuji had a large monitor showing people as they walked by a camera. As each approached, a green square would surround his or her face, and tracked it until the person turned away or left the scene. Canon showed how a camera could track up to nine people in a scene, as long as they were within a certain distance and faced the lens.

Both demos proved that cameras can detect and track faces as long as they're positioned and lit correctly. Neat. Yet when sober, most photographers can do the same.

If compact cameras merely found and tracked faces as they moved around a scene, that would still be a cool feature at a party. But detection and tracking are half the equation, and not the prime reason why this feature was developed. Fujifilm first used its face detection technology to improve the output from its commercial and minilab printing systems. Once a face (or group of faces) is identified in a photo, the printer's powerful computer figures out ways to optimize the print for skin tones (perfect color, contrast, and sharpness) and overall exposure.

It took several years for the image-processing engines in compact cameras to become powerful enough to attempt similar magic tricks. Ideally, as you press the shutter, the camera chooses one of the faces it's tracking. Then it uses position and distance information to optimize the focus, flash intensity, color balance, ISO (if set to auto), redeye reduction, and sharpness (or blur) of the image.

Does it really work? To find out, I turned on the face detection feature in the 8MP Canon PowerShot SD850 IS ($310, street) and shot dozens of impromptu field tests. The face detection function appeared to work surprisingly well when subjects were fairly close to the camera and facing towards me–even with tricky backlighting. And it also stayed locked on as I changed the composition.

With a single face in the scene, exposure, focus, and color balance were dead-on, but I found it doesn't work as well with multiple subjects unless they are all close together or are at similar distances from the camera. Perhaps, as face detection algorithms get more sophisticated, cameras will be able to detect faces turned to the side, or figure out who is the main subject in a crowded room or group portrait.

What do I want? A compact that will also recognize scene details, the faces of my friends and family, and even my voice commands—so I can order it to do things like "focus on Bryan, bracket exposures, reduce redeye, remove pimples, and delete blink shots."

Sure, talking to a camera seems weird. But by the time an image processor can handle voice and face recognition, I'll be using an 8MP camera phone, and who'll notice?

PORTRAIT PARTNER: Composing a portrait shot is hard enough without having to worry about your compact camera's focus, flash, and exposure settings. New face detection features may be the answer.

YURI ARCURS/FOTOLIA.COM

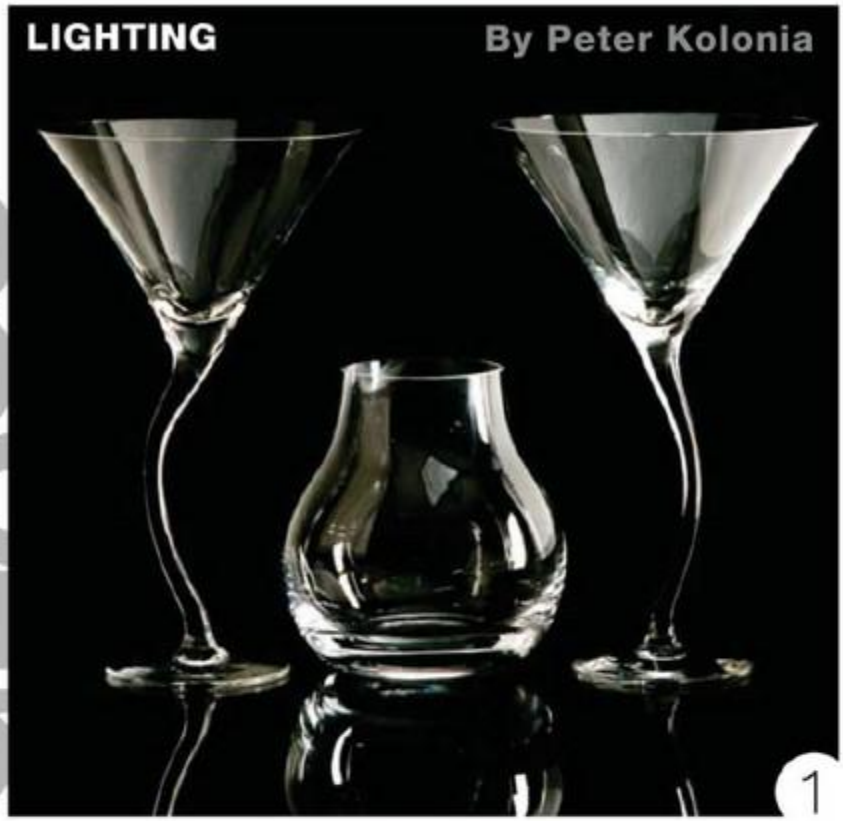
Ask MIKE

Q Digital cameras are electronic devices, so should I shut mine off during a lightning storm to prevent surge damage?

A Your camera will only get damaged in a storm if you get hit by lightning or get the camera wet. So follow normal safety precautions and keep your camera dry.

MASTER GLASS

LIGHTING By Peter Kolonia



To really learn studio lighting, shoot glass

It's almost a magician's art: giving form to an object that's essentially invisible. Lighting clear glass objects and giving them real visual appeal is one of the hardest tasks you'll ever face in a studio.

How's it done? By concentrating only on the outer edges of your subject, you *imply* its full shape.

BLACK IS BEAUTIFUL: For clear glass against black **(1)**, create white highlights along the subject's edges by using large light sources. A straight shot **(2)** can be deadly.

»Step One: Forget frontlight. This tool, so essential for nearly all studio subjects, is useless with clear glass. Instead, go with side- or backlighting. Sidelighting works with black backgrounds; your task is to rim the object with white light. Backlighting works with a white background; you take the opposite tack, outlining the object in black using subtractive fill (i.e., black reflectors).

»Step Two: Assuming you're shooting against black, use the broadest light sources at your disposal, one on each side of the subject. They might be oversized softboxes or—better still, for the added control they offer—strip lights. You can also create broad light sources by bouncing smaller lights off large, white reflectors.

Large sources are prized by studio shooters for their soft light. But that's not why you should use them with glass. The white light outlining the martini set in the top photo here is actually the reflection of two 4-foot Chimera strips that light the subjects from the left and right sides. Smaller lights would have created spotlike reflections that couldn't have outlined the entire length of each glass.

»Step Three: Raise your subject off the table by placing it on a glass platform. (Acrylic may not be rigid enough.) If this martini set had been placed directly on black seamless, the black would have acted as subtractive fill, preventing strong highlights from forming on the base and lower stem of each glass, making them invisible.

»Step Four: Place silver or white reflectors on the left and right sides of your platform, just out of the frame, to add additional highlights.

»Step Five: Use a lens shade and/or flap to keep light from striking the front of your lens, creating flare.

»Step Six: Just before shooting, don a pair of cotton or powder-free latex gloves, and clean the glass subjects and platform thoroughly. They must be spotless, because strong sidelighting typically shows every smudge, fingerprint, and dust mote. Now, you're ready to shoot.

For more help, see *Light: Science and Magic*, 3rd Edition, by Fil Hunter, Steven Biver, and Paul Fuqua (Focal Press, $40). An entire chapter is devoted just to glass.

If you're serious about understanding light and mastering studio techniques, try working with clear glass. You'll quickly discover, if you can light glass, you can light just about anything.

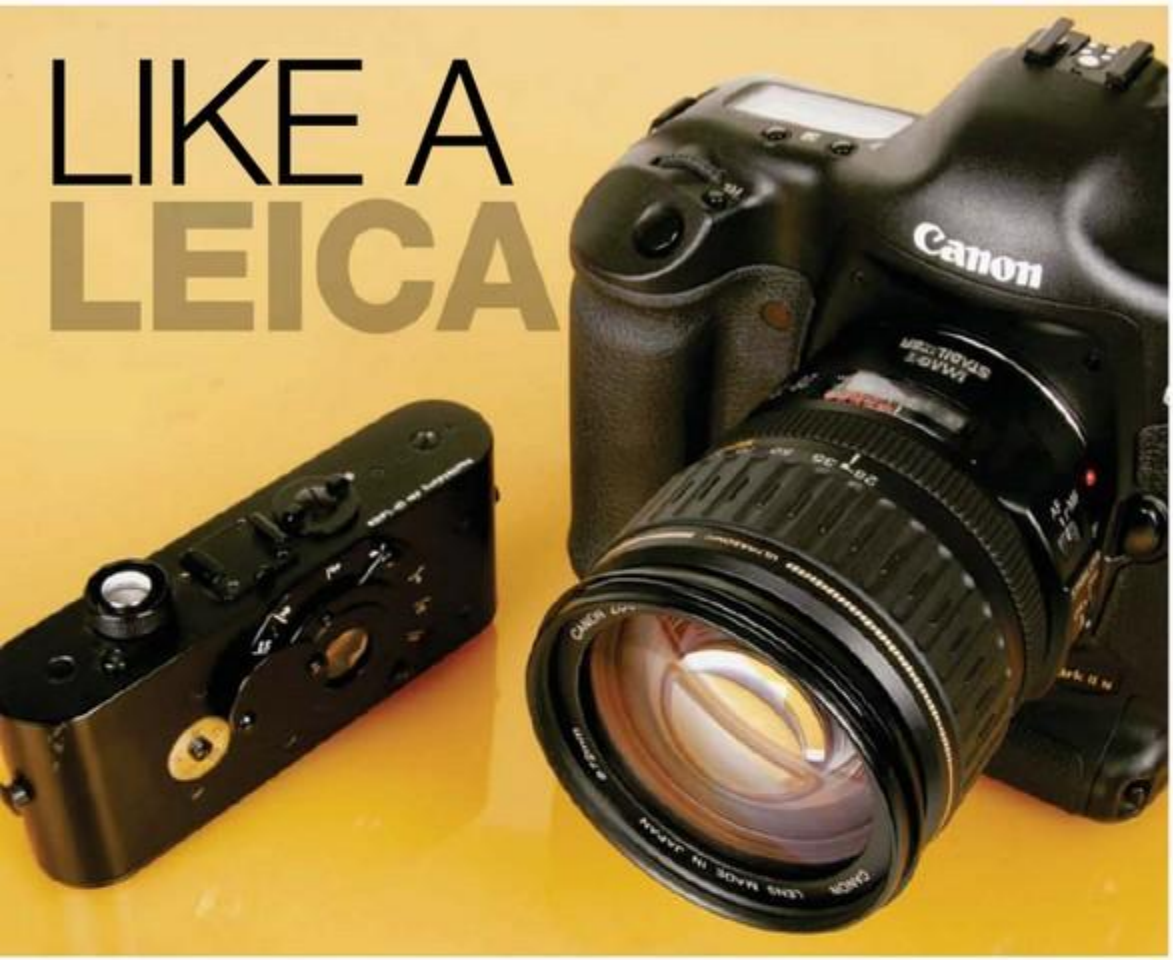
Ask PETER

Q What's the difference between additive and subtractive fill lighting?

A Additive fill brightens shadows, adding illumination from a light source or from reflected light. Subtractive fill creates or darkens shadows by blocking light from reaching the subject, often with a length of black foam-core called a flag or gobo.

By Herbert Keppler

LIKE A LEICA



MY, HOW YOU'VE GROWN: A replica of Barnack's 1913 simple 35mm prototype Leica poses warily next to the mighty, modern Canon EOS-1D Mark II N with, as they say, all the bells and whistles.

What I want for Christmas? Simplicity!

If you are ever fortunate enough to hold one of the first 1925 Leica I(A)s in your hands, you'll quickly understand why it became the first commercially successful 35mm camera. (Just don't drop it. Each is worth $30,000 or more today!) It's oh-so-light, compact, and comfortable, and its few controls fall right where your fingers want them.

Its creator, Oskar Barnack, didn't throw the I(A) together as I suspect a lesser designer might have, nor did he follow the advice of a committee. Twenty years prior, while working at the famous Carl Zeiss optics plant in Jena, Germany, Barnack, an enthusiastic amateur photographer, spent much of his spare time hiking. Lugging around a plate camera and tripod proved slow and cumbersome.

Why not a pocket-sized camera that would use 35mm movie film? Barnack was confident that despite the format's small size, careful exposure and processing of the film might yield surprising results, particularly if he increased the picture area to 24x36mm, twice that of a movie frame.

Mechanically, film offered multiple advantages. Rolls of it could provide many consecutive pictures just like a movie camera, and its sprocket holes could be used to both advance the film and wind a focal plane shutter at the same time. Shutter speed, aperture, focus distance, and film wind were the only needed controls. Barnack showed a rough device to a manager at Zeiss Jena, which had made other cameras, but his concepts were rejected.

In 1911, Barnack quit Zeiss Jena, and went to work for E. Leitz in Wetzlar, a far smaller optical company that produced primarily microscopes. Leitz had no experience with cameras, but this didn't bother the company's head, Ernst Leitz II, who named Barnack a development engineer and instructed him to work on his camera.

Barnack did just that, and soon had two metal prototypes that he used to take many memorable scenics around Wetzlar, which even today have astonishing quality. (Max Berek, Leitz's chief optical engineer, created the 50mm f/3.5 lens that Barnack used on the prototypes.)

World War I interrupted the camera's development, but in 1924, Ernst Leitz gave the go-ahead for mass producing what was to be called the Leica. Shown at the Leipzig Trade Fair in 1925, it created a sensation and a worldwide market for the camera and its successors. From then on, virtually all mechanical 35mm cameras have used Barnack's film-advance/shutter-winding mechanism.

Ask HK

Q When buying a new camera, do I need to purchase an extended warranty, as well?

A If cameras used by amateurs go wrong, it's usually during the one-year manufacturer's warranty period. Still, I like to play it safe with a two-year extension, if the camera costs more than $300. How much should you pay? Ask one of our CheckRated stores.

What didn't survive, unfortunately, are the qualities that made Barnack's camera such a success: compact size and simplicity of controls. Leica I(A) users had only to set shutter speed, aperture, and focus distance, and then squeeze the shutter release. Given 15 minutes of instruction, practically anyone could go out and start shooting pictures.

Today's cameras have been loaded like well-decorated Christmas trees with as much glitter and doodads as camera makers and copywriters can devise. Are more coming? Of course!

But what to do with the gimmicks built into your camera? Use what you need and turn off the rest. Many pros I know ignore a large percentage of top-level camera capabilities. One leaves his camera on Program mode, period!

Are any contemporary features worth your while? Shake reduction is a keeper. POP PHOTO Lab tests have found that camera sensor-based stabilization systems average about 2 extra stops of handheld sharpness, but I've heard the next batch of cameras with built-in image stabilization will claim 4 stops.

Multiple autofocus points? Turn 'em all on only when shooting action. For portraits, aim one central AF point at a key feature such as an eye, hold focus, and recompose. For metering, aim a center spot on a gray object in the scene. Unless you're a rank beginner, turn off scene-specific picture modes such as Portrait, Landscape, and Close-up, and set your camera yourself.

Automatic ISO setting is great if you have a DSLR that can handle high ISOs without increasing noise, but beware of trusting it on point-and-shoots that rarely can go higher than ISO 400 successfully.

Face detection is nifty to experiment with on a rainy day. It can provide proper exposure and focus for up to 10 or more faces in the same picture. Try it singly, doubly, and with multiple faces. Draw your own conclusions by examining magnified results on your LCD screen. (For more, see Mike McNamara's column in this issue.)

With so many competing dust protection (and elimination) kits on the market, it was predictable that camera makers would build them into their cameras. How well do the systems work? Who's the brave soul willing to find out by placing dust on his own DSLR sensor and trying to remove or eliminate it?

What's on the horizon? Bigger, brighter, swing-around, and live LCDs, for sure. And 20-megapixel sensors (and maybe higher) on DSLRs equally at home shooting full-frame and APS formats—and able to use both lens types. (As for DSLRs equally at home shooting film, don't hold your breath.)

What do I truly hate about DSLRs? Menus. Particularly menus I need to consult for ISO settings and/or white balance. Buttons marked ISO and WB with direct access do me fine.

But what do I really want? A comfy, rugged, gem-like, compact, four-control, digital Leica 1(A). You can leave off all the ornamental stuff. That's not too much to ask, is it? ✪

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ThinkGreen

Text by Lori Fredrickson
Photos by Birte Person

"Photography for me is a tool to help protect our natural world," says Danish-born photographer and environmental activist Birte Person.

The 60-year-old former art teacher, living in Corrimal, Australia, has been a nature-lover since childhood, when she collected various insects. Involved for about 25 years in conservation, in 2004 she devoted herself to it full-time and now travels to remote locations to photograph endangered wildlife from tigers to parrots to beetles.

But photographing endangered frogs is her greatest passion, and she does that in her backyard. It started when she found out that local developers were draining ponds intended for frog preservation. She gathered frog eggs and brought them home to a pond she and her husband had built.

Then, "we began collecting frog eggs from the mountains where habitats were being destroyed, raising them, and releasing them farther away," she says. Twenty ponds later, the couple has bred five different species of frogs, which they release into the wild upon maturity.

But first, she shoots them with a Canon EOS 20D and one of her assortment of macro lenses. "It took me a long time to master it," she says. "It takes a lot of patience and practice."

Person shoots macros not only of frogs but of other endangered animals, insects, and plants for nonprofit organizations, and for posters and calendars promoting conservation.

"I'd hate to see a world where all we have are photographs as reminders of what we once had," she says. "My hope is that my images will have people thinking more about these issues."

Want to save a frog of your own? Here are some of Person's tips:

1 Wear rain gear. "Be prepared to get wet, dirty, and cold," Person says. "Frogs are most active when the weather is wet."

2 Bring a headlamp. Frogs are also most active at night. Fortunately, their loud nocturnal croaking makes it easier to find them. A headlamp (available at camping stores for as little as $12) will help you navigate with your hands free and light your subject as you creep up on one.

3 Rock and roll. If you're handholding the camera, Person recommends rocking back and forth on your heels to focus instead of adjusting the focusing ring—a faster and more accurate method for a macro lens. If using a tripod, try a focusing rail.

4 Diffuse your flash. You'll need to use a flash at night, and a diffuser casts a more flattering light. For shoe-mount flashes, try a stick-on model, such as the LumiQuest Mini Softbox ($20, street).

5 Set aperture-priority mode. Given the shallow focus of a macro lens, you should create as much depth of field as possible by using the smallest aperture you can—as little as f/22—to get the entire frog in focus.

6 Start a frog sanctuary. Finding the critters is the hardest part, especially in the wild. If you have a pond or the space and resources to build one, try catching tadpoles and starting your own frog refuge.

▲After
◀Before

CONTRAST FALLS

Jonas Fields
Menlo Park, CA

The problem: Hooboy, that midday contrast! With the sun nearly overhead in a cloudless sky, an already-contrasty scene gets very harsh. The rocks are losing detail because of all the hot highlights. And the waterfall spray gets completely blown out—which would be okay for spectral highlights, but not for the whole stream of water.

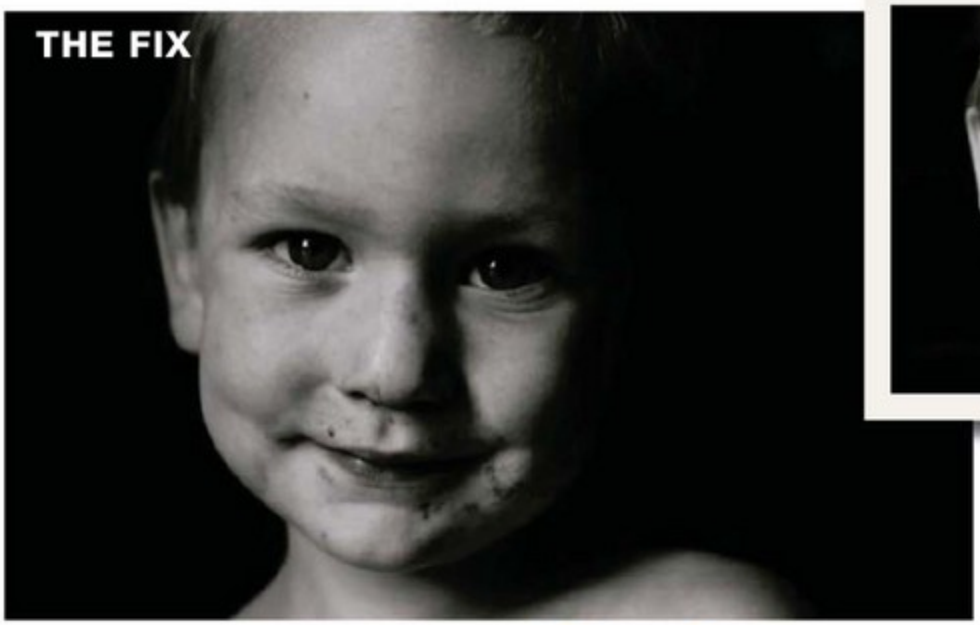
What now? We made a duplicate layer in Adobe Photoshop CS3, then used one of our favorite fix-it tools, the Multiply Blend mode, to tame the contrast and get more detail. Multiply works something like a contrast mask sandwich from back in the film days, if you remember such ephemera. The advantage of the newfangled digital version of the technique is that it can also increase density in predominating colors.

We cropped slightly from the top to get rid of the brightly lit rock above the falls, which we deemed distracting, and to concentrate the view a little more on the falls. This also gets the falls a little more off-center (Rule of Thirds and all that), and reduces the dark area on the righthand side.

Next time: As POP PHOTO's frequent Nature columnist Tim Fitzharris keeps telling us, early and late in the day are the best times for scenic shooting. This not only throws more light into the shadows, but the light, even when it's direct, is often softer and warmer. It can add extra dimension, too. Aside from shooting at a different time of day, you can wait for different weather—midday shooting can work with overcast and mist—or wait for a cloud to move overhead. Barring that, you might also try using a polarizer. By reducing reflections, it can sometimes deepen the tone of rocks.

Tech info: Minolta Maxxum 7000 with 35–70mm f/4 Minolta AF lens, exposure unrecorded, probably 1/125 sec at f/8 on Fujifilm Fujicolor Pro 160S. Negative later scanned.

THE FIX



▲After
◀Before

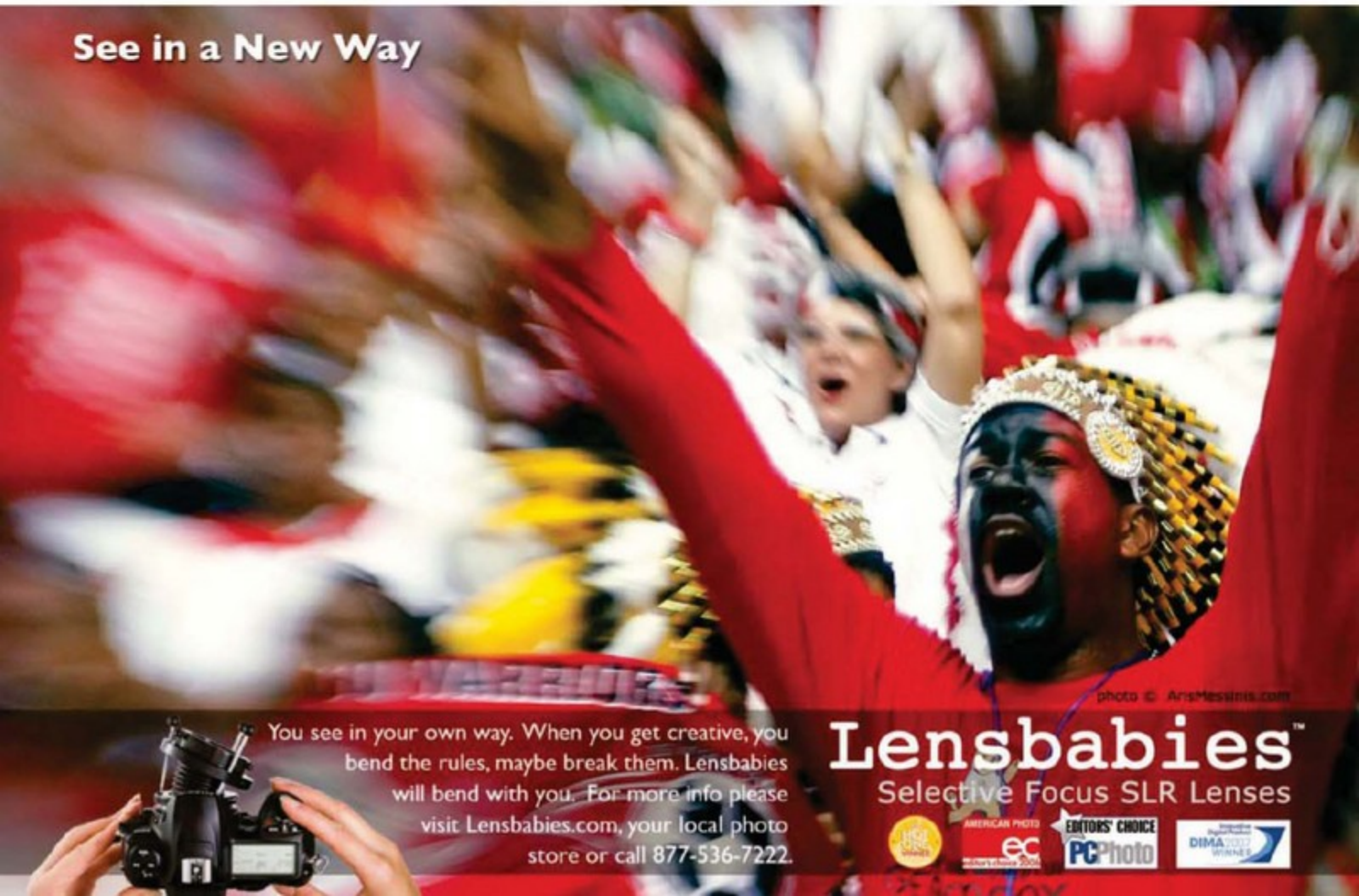
FACE TIME
Samuel Clint Harris
Brandon, MS

The problem: Photographer Harris notes that his son Gabriel's face "is constantly dirty." That's not a problem for us—in fact, it's quite endearing. We just think this picture is too dark for a child's portrait.

What now? The in-camera monochrome conversion Harris used was okay, but when we tried to adjust contrast/brightness, the tones would get unnatural—the lips would get too light, for example. So we went to a color version from a RAW file he had captured simultaneously, normalized its color balance with Curves in Adobe Photoshop CS3, subtracted a little red and yellow, as it was overly warm, then went back to monochrome with CS3's b&w converter. (We sometimes insist on doing things the hard way.) We then brought up the highlights.

Next time: This comes under the heading of aesthetic decision. Both versions could be considered valid, but we think kids should have, well, a youthful glow. What do you think?

Tech info: Canon EOS 30D, 50mm f/1.8 Canon EF lens, 1/160 sec at f/3.5, –0.3 EV at ISO 800. Camera b&w mode with green filter effect.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Why It Works

■**Fundamentals:** With its puffy ball of orange chiffon feathers, hooked beak tucked modestly underwing, and comical monopod stance, a flamingo is a study in exoticism and a compelling subject for any photographer. So how hard must it have been for Spanish photographer Marina Cano to turn her lens from the extravaganza above to focus instead on these knobby knees —and how wonderful!

■**Color:** Hues are richly and satisfyingly saturated, and the scene's overall contrast, with white legs against the black background, adds an extra jolt of visual stimulation.

■**Framing:** Expertly composed, with long, vertical subjects set happily within the vertical frame.

■**Technique:** Shooting through a polarizing filter let Cano tone down bright surface reflections in the water, bringing the scene's subtle and shimmering blue and green undertones to the fore. Also, she found the perfect custom white balance for a scene burdened by a cool cast from an open blue sky and green shade trees.

■**Humor:** Those crinkly knees seemingly clad in leathery, clown-worthy leggings, as well as the wacky, webbed Daffy Duck feet, add an undeniable comic accent to the scene. Flamingos may be beautiful on top, but, as Cano shows us, their legs are a hoot!

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5 Ways to Keep Snow White

Old Man Winter gives us wonderful opportunities for pristine snow images. But you must be careful with exposure, or white snow will wind up looking like gray sand, as in the picture below (left). At fault is the usual culprit: the lightmeter, which, in its relentless pursuit of medium gray, will underexpose snow if you don't override it. Here are ways to do this.

1 Meter the snow and manually set the exposure to 1.5 to 2 stops brighter than the meter reading. White snow usually appears most realistic at this exposure.

2 Alternately, meter the snow with the camera's exposure compensation feature set to +1.5 to +2 stops, and lock the exposure. (No exposure comp? Film shooters can add exposure by setting the ISO to 1.5 to 2 stops slower than the film rating—ISO 100 for 400-speed film, for example.)

3 Lock the camera's exposure while metering a midtoned object (a gray card or a rock outcropping).

4 If you're shooting in sunny daylight, use the Sunny 16 Rule: At f/16, set the shutter speed to 1/ISO (or any equivalent exposure). Under a moderately overcast sky, increase this exposure by 1 stop; under heavy overcast, 2 stops; and for scenes in the shade, 3 stops.

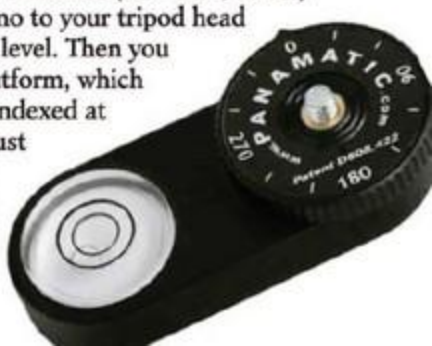
5 With digital cameras, check the histogram. There should be a slight gap between the image tones and pure white (the right side of the graph). Otherwise the snow is blown out to featureless white.

—Timothy Edberg

TIMOTHY EDBERG (2)

Problem Solver

■**Pan Steering:** Panoramics are hot again. All you need is a digital camera to take a series of pictures, and software (often free) to stitch the frames together. But even the best program can't make up for lumpy pans—frames that are taken unevenly, either off-axis from one another, or nonlevel, or both. The best thing to do is put the camera on a tripod with a rotating head, and keep it level. Easier said than done. (Even a bubble level on the tripod head is no guarantee that the *camera* will stay level.) The Panamatic ($17–$22, street) is a clever and simple solution. You attach the gizmo to your tripod head and use the built-in bubble level to get it perfectly level. Then you attach your camera to the Panamatic's rotating platform, which will stay level throughout a series of shots, and is indexed at 15-degree increments so you can get the overlap just right. From Parkside Products, the company that brought you the LensPen. (www.lenspen.com) ✪



To find out how these were done...just turn the page ↻

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Text and photos by Ann Texter

EASY ANTIQUES

Want a new look? Try something old.

The first time I saw a Polaroid image transfer, I knew I had to learn how to make one. When gently transferred to watercolor paper, Polaroid photographs grow magically softer, dreamier, and more like paintings. The best thing? A quick trip to old-camera heaven—eBay—confirmed I could gather everything needed at a price I could afford.

There are several ways to make Polaroid transfers. I use a Vivitar Instant Slide Printer (available used for $50 to $75 on eBay) to copy images from 35mm slides to 3.25x4.25-inch sheets of Polaroid peel-apart Polacolor 669 film. The process doesn't require a darkroom or much space—a kitchen or bathroom works well. All that's required are slides. Still got a film camera? Here's a reason to use it! The transfer process is simple.

1 Load Polacolor 669 film into the slide printer following the manufacturer's directions.

2 Wet a sheet of watercolor paper, the smoother the better. (I prefer Arches hot press, available at art supply shops and online.) Place the wet sheet on a smooth, flat surface, and lightly squeegee it.

3 Load a slide into the printer, and push the button to expose. Pull the film out of the holder in one straight movement, and let it develop for 10 to 15 seconds. Using scissors, cut the white wax-paper end of the film, and gently peel negative and positive apart.

4 Place the negative face-down on the wet watercolor paper. Once it's down, do not move it or the image will smear.

5 Using medium pressure and a brayer roller ($7 to $10 at any art supply shop), roll back and forth over the back of the negative approximately 20 times.

6 Float the transfer, paper side down, on the surface of a tray of warm water for 3 to 5 minutes. Slowly submerge it entirely, and gently take a corner of the negative and peel it back in a straight, slow motion.

7 Remove the transfer from the water, squeegee the sides of the paper—not the image itself—and set it on a flat surface to dry over night.

8 Wake the next morning and admire your work.

It's funny what we value. I'll take a box of Polaroid film over a Tiffany's box any day!

A photographer specializing in alternative processes, Ann Texter posts transfers on her website, www.anntexter.com.

Text and photos by Bryan F. Peterson

CITY BRIGHTS: Times Square shines brightest just after the sun goes down (top). Shooting at night makes the sky go black and drains the color and contrast from your scene (bottom).

DUSK BUSTER

Break away from the dark of night for great cityscapes

Many photographers believe that deepest, darkest night is the best time for a night shot of a city.

I disagree. I say the perfect time is the 10-minute period that begins about 15 minutes after sunset. This is when the sky is a dusky blue and the same exposure as the cityscape in front of it. Any later, and the sky goes black. Though some photographers like this effect, I find the pitch-black sky robs the photo of contrast and color separation.

Consider these two shots of New York City's Times Square. The first was taken during that magical 10-minute window. The second, just 10 minutes after that blue-sky window had closed. Here's how I shot them:

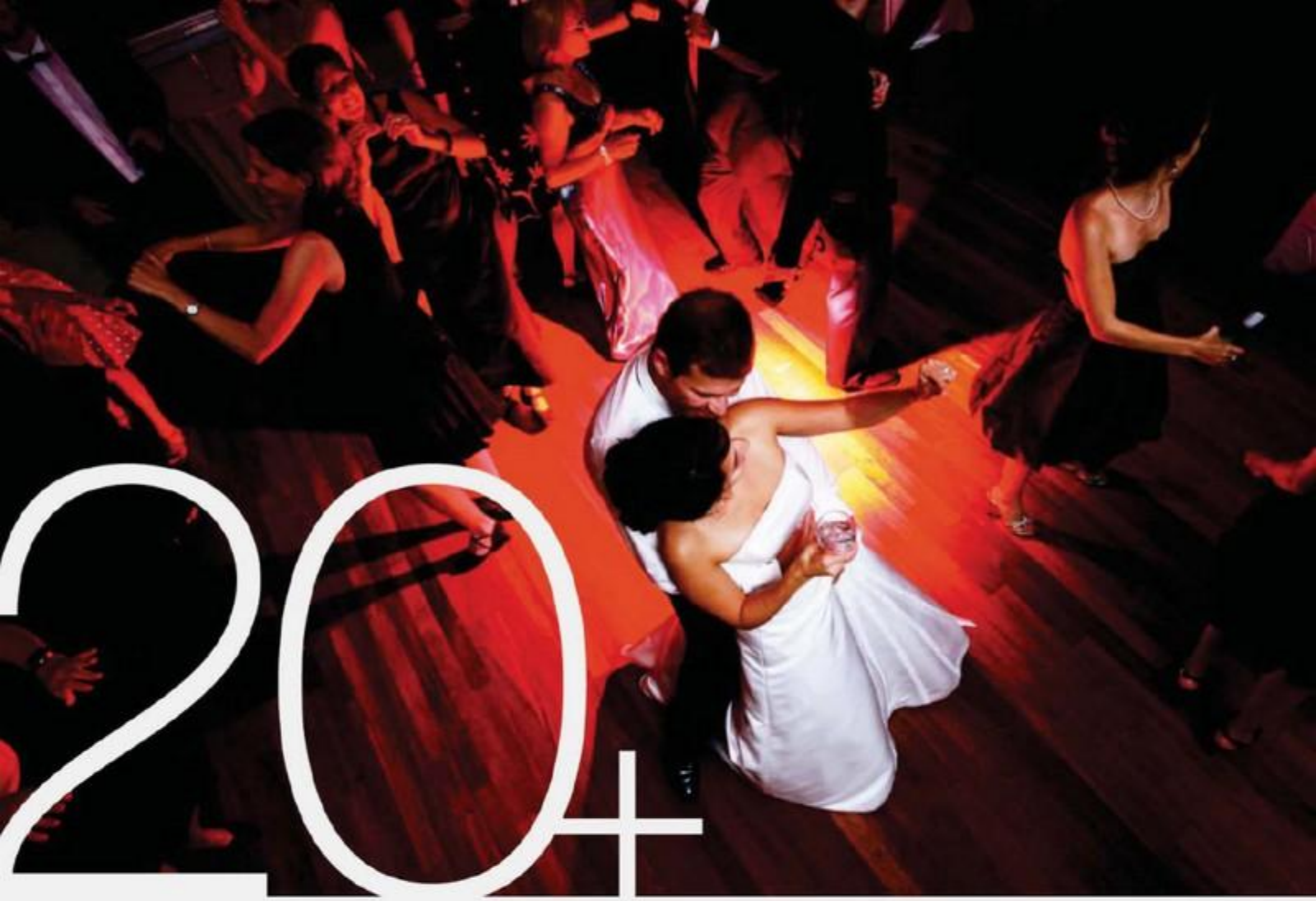
■**The Setup:** I staked my claim to a piece of the sidewalk about half an hour before dusk. When the sun went down and the lights came on, I set up my tripod, dialed my Nikon D2x to ISO 640, and set the aperture on the 12–24mm lens to f/8. Then I pointed the camera toward the dusky blue sky above the city. I adjusted the shutter speed until I got a correct exposure.

But it was just 1/30 sec. At that speed, the traffic wouldn't be the ribbon of red lights that we associate with night shots. Instead, each vehicle would be distinct, and it would look like a big traffic jam.

■**Slow the Shutter:** To capture the motion, I like to go with the longest possible exposure time. From my experience with digital cameras, 8 seconds is about the maximum exposure time I can record before digital noise becomes an issue. Fortunately, 8 seconds is plenty of time for a shot like this, as long as you begin the exposure when the traffic is moving.

As the sun continued to drop below the horizon, I dialed the ISO to 100 and set the aperture to f/22. When I pointed the camera toward the sky, 4 sec was indicated as the correct exposure. That shutter speed gave me the red taillights that say "a city in motion." And the blue sky provides depth and separation.

■**Time's Up:** Just a few minutes later, the dusky blue sky had vanished. And the second photo—shot at f/16 for 4 sec—has a dull black sky. The buildings are lost in the sky and image lacks the depth of the earlier composition. ✪



20+ Simple Useful Clever Fun Ways To Get Better Photos

When it comes to great photo tips, we find them everywhere. In our daily shooting. In interviews with pros. In our e-mails from you, our readers. On the web. In books. And, of course, on our blog, POP PHOTO Flash. Here are some of the best we've come across lately.

1 Above It All. Pro wedding photographer Matt Adcock (www.flashflavor.com) goes well beyond the usual reception shots. For instance, he gets a bird's-eye view of the dance floor by mounting his camera on a long painter's pole and firing it with a remote trigger. While Adcock wields the pole and makes sure that his on-camera flash is bouncing off the ceiling, an assistant aims a remote flash covered in a red gel at the dance floor. The result: an amazing overhead shot with rich reds surrounding the well-lit couple in the center of the photo.

2 Shoot in a Flash. It can take forever for an AF system to find focus with flash photography in low light. To get the shot quicker, switch to manual focus and prefocus as best you can. Then set the aperture to f/8 or f/11 so that the depth of field covers your estimate.

DANCING FEAT: Throw away the clichéd shots—and let Tip #1 show you how to get a photo like this one by Matt Adcock.

3 Ready to Fill. When shooting outdoors, if you consistently use fill flash with reduced flash output, set it as your default—don't wait until you're shooting to fiddle with the controls. Many of the POP PHOTO editors set the flash exposure comp control to –1 EV on every DSLR they use.

4 Flash? What Flash? Got a large outdoor scene with some important parts in shadow? The lighting website www.strobist.com offers an interesting technique. It involves placing small flashes in the darker areas of the scene to fill out the exposure or to balance foreground and background exposure. You then retouch the flashes out in postproduction.

MATT ADCOCK

Say you're shooting the exterior of a house and its landscaping. Often, the best time to photograph buildings is in the early morning, when the sun is low in the sky. But this can lead to problems with exposure if the front of the house faces away from the sun. Placing portable strobes in the scene and triggering them wirelessly can fill out the exposure, letting you balance the dark face with the bright sky. After a few minutes with image-editing software, all you see are the results, not the flashes.

5 Get More Byte. If you've shot a number of frames of the same scene or the same subject, and want to choose the sharpest images, you don't have to look at them all in an image editor. Check the file size of the photos—the bigger the file, the sharper the shot. More detail requires more bytes.

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6 Tone Deft. Simulate the subtle shades of sunrise and sunset by adjusting the preset White Balance on your digital camera. Choose the Tungsten setting (light bulb icon) to add a bluish morning cast, or the Shade setting (cloud icon) to add the warm, brownish tones of dusk. The effect will be mild, but you can exaggerate it by underexposing the shot.

7 Portrait Panache. You don't need a full studio to make great portraits. In her new book, *Portrait and Candid Photography Photo Workshop* (Wiley, 2007, $30), Erin Manning offers these three tips to help make your subjects look their best, wherever you are.

1. Makeup, please. Almost everyone will benefit from some pre-portrait powdering to soften the complexion. Bring along a few neutral tones and a soft makeup brush.

2. Fast and 70mm-plus. A long lens at maximum aperture blurs the background and emphasizes the subject.

3. Background check. If the background is distracting, place a 2x2-foot square of fabric behind the subject.

8 Eye Scream. When shooting portraits, nothing is as important as the subject's eyes. Even if everything else is soft, make sure the eyes are sharp.

9 The Skinny on Portraits. Don't believe anyone who says the camera adds 10 pounds. It's the photographer who does. But with the right poses, lighting, and angles, you can make your subjects look thinner. Try these three slimming techniques:

1. Twist 'em. If your subjects are standing, have them take a step back with either foot. If seated, have them sit at an angle. This forces them to twist to face the

camera—stretching the torso and smoothing bulges.

2. Get high. Shoot from a little above your subjects' eye level. This elongates the face and makes them lift their face up just a tad—helping to minimize a double chin.

3. Narrow down. Short or narrow lighting involves illuminating the side of the face that's turned away from the camera. This puts a large part of the face in shadow, making it look quite a bit thinner. You can get this effect by using a window, lamp, or off-camera flash.

10 Reflection on You.

When pro Gunther Deichmann (www.deichmann-photo.com) makes portraits in areas where the subjects might be shy, such as a remote village in Tibet, he doesn't use large, intimidating reflectors. Instead, he wears a white T-shirt.

"If you position yourself correctly in natural light, the T-shirt is a very nice reflector," he says. "No need for anybody to hold a reflector, and your hands are free."

11 Mr. Softee.

If your portrait subject needs softening, but you don't have a soft-focus filter, the pro who goes by the name Wolf189 (www.wolf189.com) suggests trying a slower shutter speed. Shooting with a continuous light source at 1/15 or 1/8 sec (on a tripod!) will usually soften wrinkles and other complexion problems just from the movement of your subject breathing.

12 Oil's Well.

Need soft focus in only part of a scene? And you still don't have your soft-focus filters? Gunther Deichmann suggests using your finger to very gently apply oil from your forehead to your lens (or better, UV filter) at a point that corresponds to the area you'd like softened. After shooting, be sure to remove the oil with a lens-cleaning cloth or tissue.

IMAGE CONTROL

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11/10-11/07 Cincinnati, OH	2/9-10/08 Dallas, TX	4/26-27/08 Sacramento, CA
11/17-18/07 Chicago, IL	2/23-24/08 Phoenix, AZ	5/3-4/08 Baltimore, MD
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12/1-2/07 Washington, DC	3/8-9/08 New York, NY	5/17-18/08 New York, NY
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13 Sharp Self-Portraits. Shooting self-portraits with a tripod-mounted camera and infrared remote is a great way to experiment with various techniques. But while the model works for free and rarely complains, it's difficult to get a proper focus on your eyes.

The website www.Meejahor.com has a clever way to force the camera to focus where you want it. Just darken the room and hold a small flashlight next to your eye. The camera will pick up the only area of contrast and lock on. Boom! Perfectly crisp focus right on your pupil.

14 Portrait Inspiration. Is your portrait lighting stuck in a rut? Find a classic look that doesn't go out of style by watching old movies. Black-and-white films from the '30s and '40s are a great source of portrait techniques and, with many now on DVD, you can freeze-frame them and study the lighting. The first thing you'll notice: The lighting always matches the mood.

If it's a sultry scene with a starlet, you'll see an overhead butterfly pattern with some diffusion to give her a soft, dreamy look. When a man needs a rugged, chiseled look, there's hard-edged short lighting. Funnymen look brighter in broad light.

15 Car Talk. With shiny surfaces, lots of reflections, and so many angles to shoot from, cars can be challenging subjects. Try these three tips to put your images into overdrive:

1. Get low. Unless you can shoot from 3 to 4 feet above the roofline of the car, taking a dramatically lower angle can make the car look more impressive, especially against a cloud-filled sky or evening skyline.

2. Avoid direct flash. A head-on collision with your flash will show every flaw in the car's paint. Move the flash off-camera and use sidelighting to accentuate the lines of the car.

3. Wet the ground. This trick is as old as automotive photography, since water raises the contrast in the image and reflects your subject, adding a sense of dimension.

16 Get Texture.

Sometimes in postprocessing you discover that an image could use some additional texture, such as a smooth, leafy, or pebbly element. To make sure you always have some textures on hand, carry a compact camera and capture any interesting textures you come across. Use the camera's macro mode and the highest resolution you can.

17 Buy Texture

Don't have time to go out and shoot the texture you need? Turn to the web. Go to www.textureking.com. This site sells images of textures at very reasonable prices.

18 Blink Buster.

One blinker can ruin an otherwise great group photo. Sure, you can fix the picture later if you take a couple of shots and then splice them together using software, but prevention is easier. If possible, avoid flash, though it can be tough to find a bright, evenly lit area large enough for a group, particularly indoors at a party.

Got to use flash? Tell everyone you'll fire on the count of three. Then shoot on two. This way, people are already smiling, but they haven't yet blinked in anticipation of the flash hurting their eyes.

19 Sort It Out.

Like so many of us, G. Michael Anthon of Walton Hills, OH, couldn't tell which lens was which in his camera bag. After all, from the rear end, all lenses (and lots of other things) look pretty much alike. But unlike so many of us, Anthon decided to do something about it. Now he uses a metallic silver marker to note the focal length of each on the rear lens cap. He also marks the body cap from the camera (5D, 30D, etc.) and mates it with the marked rear lens cap while the lens is on the camera.

20 Ready for Next Time.

If you change a lot of settings on your camera while shooting, take a few minutes at the end of your shooting day to reset it to your preferred defaults. It could save you 15 minutes—and some good pictures—the next day.

Contributing writers: Luis Cruz, Kathleen Davis, Melissa Macatee, Matthew Panzarino, Dan Richards, and Jon Sienkiewicz.

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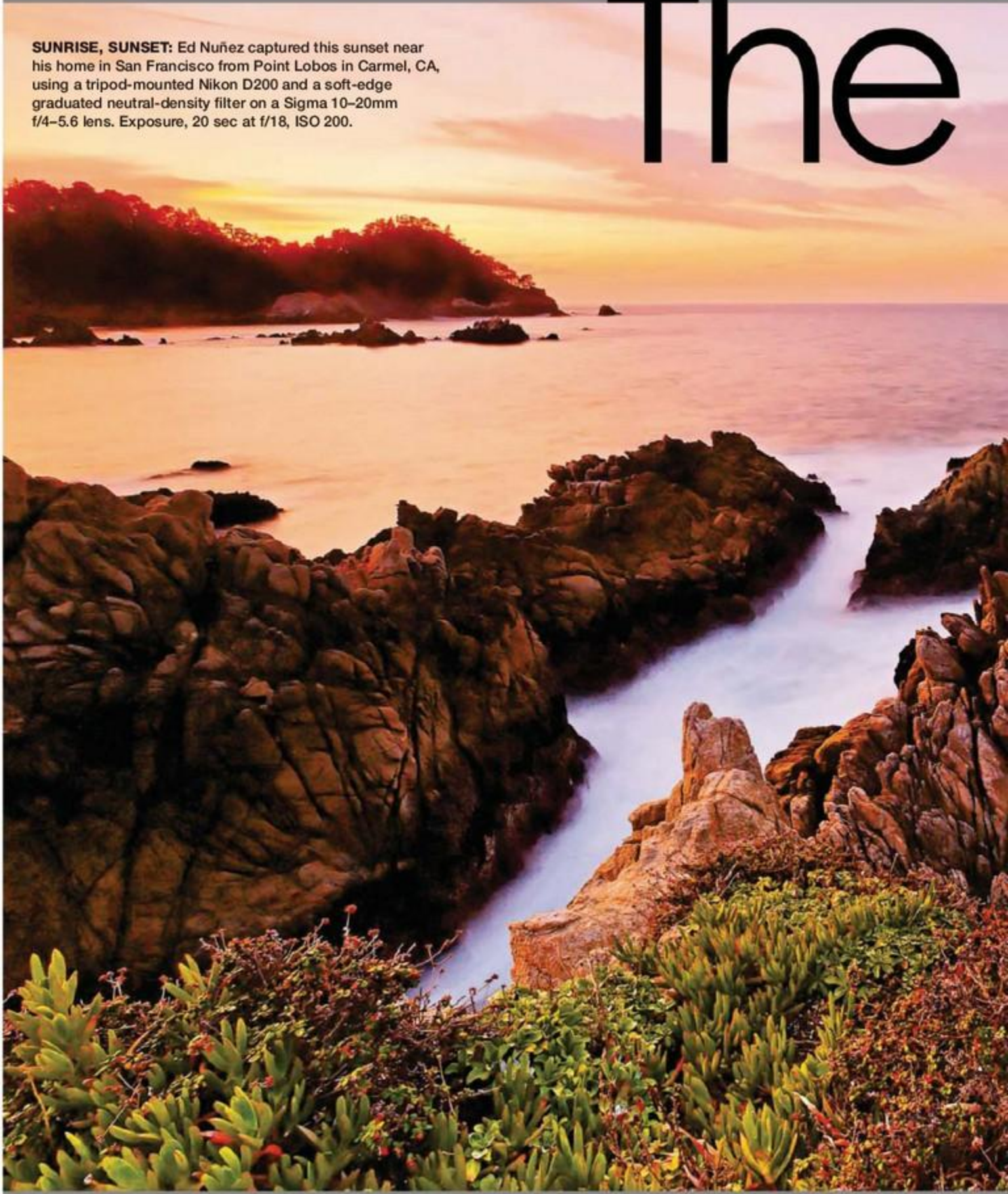


SUNRISE, SUNSET: Ed Nuñez captured this sunset near his home in San Francisco from Point Lobos in Carmel, CA, using a tripod-mounted Nikon D200 and a soft-edge graduated neutral-density filter on a Sigma 10–20mm f/4–5.6 lens. Exposure, 20 sec at f/18, ISO 200.

By Lori Fredrickson

Freshman

How a beginner learned to shoot amazing landscapes in just a year. And so can you.

You can't just learn to take amazing pictures overnight, can you?

Ed Nuñez did. In July 2006, the San Francisco resident bought a Nikon D50, his first DSLR. Now he spends his spare time taking beautifully composed and exposed images.

How did this 37-year-old software engineer and family man get so far so fast?

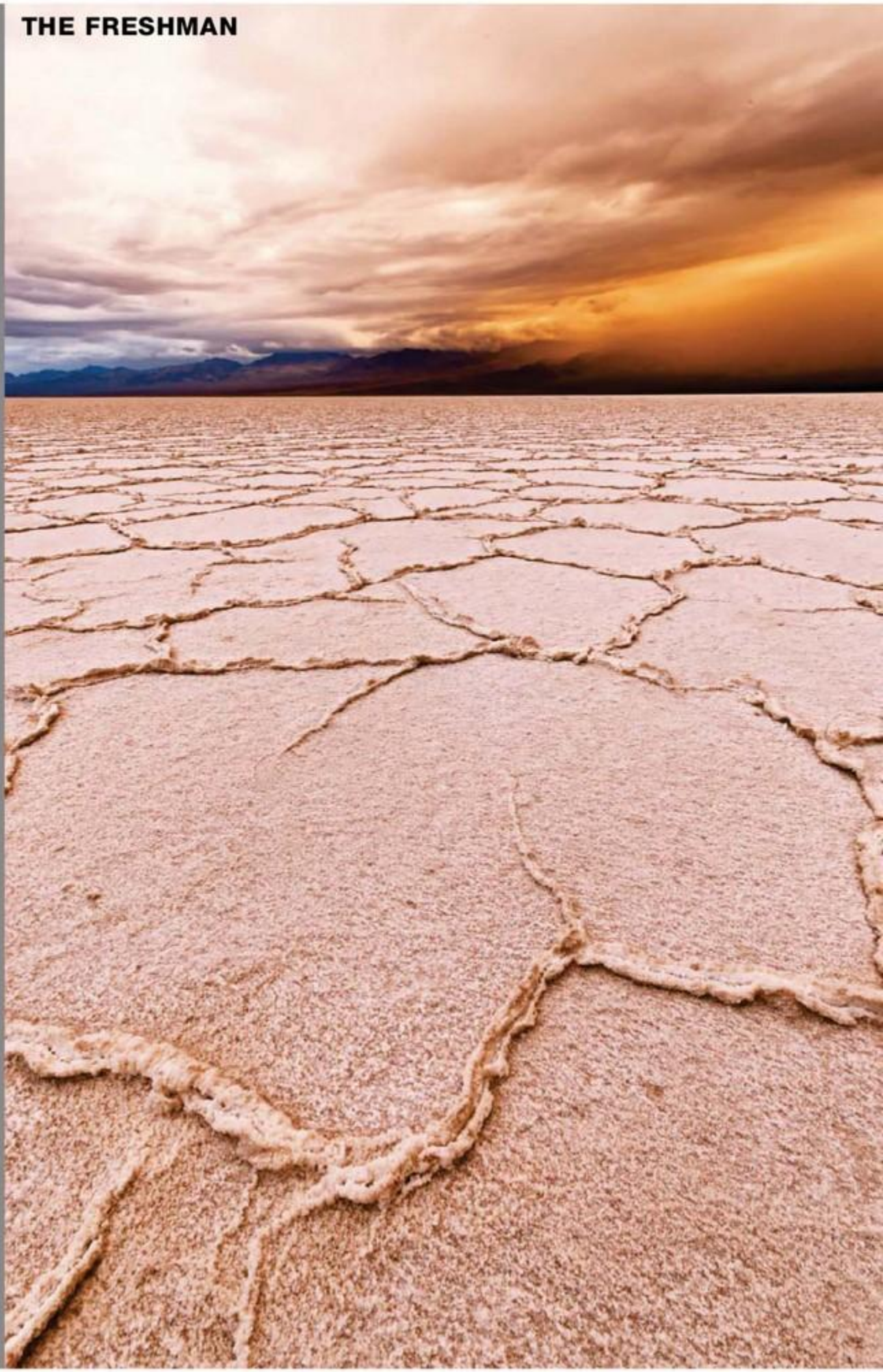
Read Right

Rather than wasting time making poorly exposed images, Nuñez hit the books before even starting to use his camera. He spent two weeks learning his D50's manual by heart. Next, he read Bryan F. Peterson's *Understanding Exposure*. "The lessons were easy to practice on my own," Nuñez says.

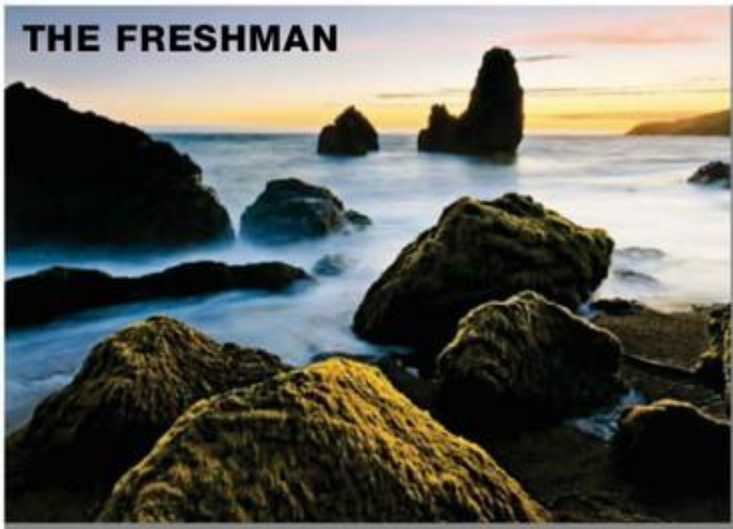
Peterson (a POP PHOTO contributing editor) includes a tutorial that shows how by varying shutter speed you can create many visual effects with a single subject, such as a ferris wheel at night. "I photographed my daughter in motion on a swing set," says Nuñez. "When I saw how she went from sharp at one setting to nearly a ghost in another, it all clicked."

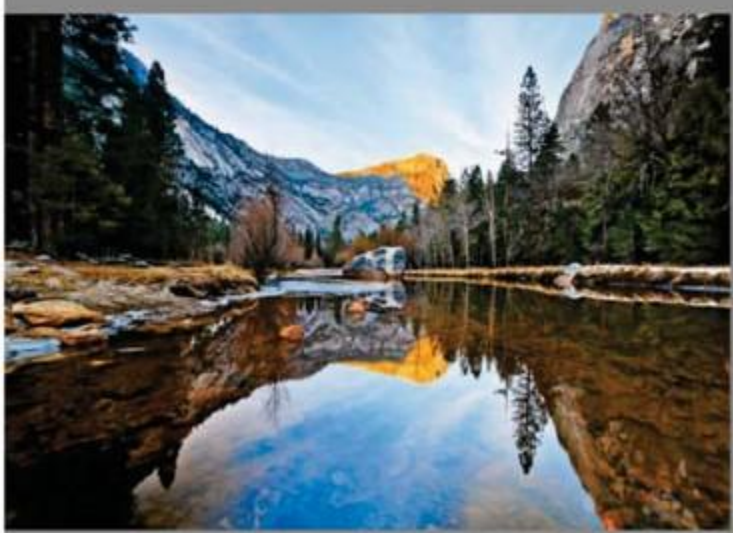
Self-assign

Starting out, it's smart to choose subjects that are easy to shoot. Sunsets (Nuñez's pick) are great. They happen every night; they don't mind being photographed; and you'll get good results even on your first try. They're also good for



THE WIDE VIEW: Nuñez took advantage of the extreme perspective of his wide-angle Sigma for this view of Death Valley. Exposure, 5 sec at f/22, ISO 100.





CAPTURING COLORS: Nuñez's frequent trips up and down the west coast searching for magical landscapes brought him to **(top)** Rodeo Beach in the Marin Headlands, shot at 13 sec at f/22, ISO 100. He used a graduated ND filter to capture the rosy glows of sunset without losing detail in the stones **(middle)** for 10 sec at f/22, ISO 100. For the bright blues of the sky and the water of Mirror Lake in Yosemite **(bottom)**, he used a circular polarizer for 6 sec at f/22, ISO 100. All images were shot using a Nikon D200 and 10–20mm f/4–5.6 Sigma wide-angle lens.

practice because a small change in exposure can make a radical difference.

Nuñez learned fast that getting a precise exposure of a sunset works only in manual mode, so he taught himself to read the viewfinder's analog exposure scale and to shoot in manual.

Make a Connection

Nuñez soon discovered photo-sharing sites such as Photo.net, but at first he was shy about posting images for critique. When he got up the nerve, he was encouraged by how positive—and helpful—many critiques were. And it boosted his confidence to find users saving his images as Favorites.

"I also learned a lot from the photography of others," he says. "Not just from good images, but from comments and critiques." Other helpful sites include luminous-landscape.com, Nature Photographers Network (www.naturephotographers.net), and, of course, POPPHOTO.com.

He also learned to make better exposures using histograms on his camera's LCD. When he wasn't capturing enough shadow detail, he read an online tutorial on "exposing to the right"—adjusting exposure to move the histogram's highlight curve as far to the right as possible before it falls off the axis and clipping sets in. This preserves shadowy foregrounds in his sunsets, while letting him fix washed-out highlights later with Curves and/or Levels adjustments in Adobe Photoshop.

Work the Workshops

Nuñez took his first workshop, on nature photography, only two months after buying his camera. "For the first time I was interacting with people and understood ways to work out a subject. I began waking before sunrise to catch the golden light."

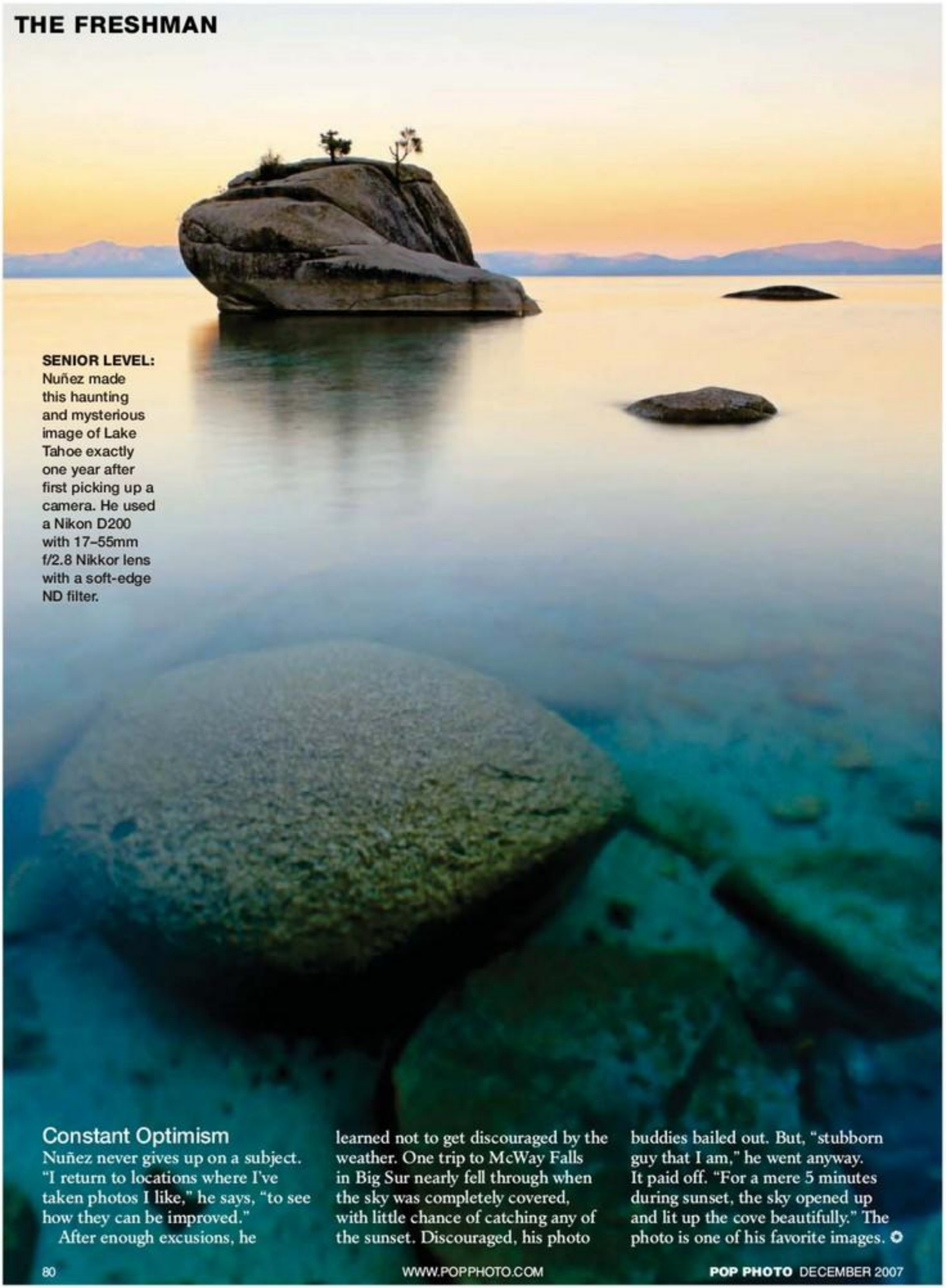
A recent one-on-one with pro Marc Adamus (wildphoto.smugmug.com) taught him how to "make it into an adventure," he adds. Rather than just going to a locale to get that million-dollar image, it was about exploring how all things in nature could be photographed.

For instance, Adamus taught him to add a subtle starburst effect to sunsets without using a starburst filter: "If you handhold and gently shake a hard-edge split neutral-density filter in front of your lens," says Nuñez, "you get more open shadows and the soft-edge effect of a graduated ND filter." You also get a starburst effect in specular highlights. And, it eliminates flare.

Good Gear

It's common to put up with equipment for which you've just forked over hard-earned cash, but the fact is, using the wrong gear impedes your progress as a photographer.

Nuñez went through three tripods in four months: He couldn't adjust the first one's height easily, and the second one's head didn't lock tightly enough to hold his telephoto lens in position. Now he has a Manfrotto 321 Pro tripod and Acratech head. And last winter he stepped up to a Nikon D200, adding new lenses on the way.



SENIOR LEVEL: Nuñez made this haunting and mysterious image of Lake Tahoe exactly one year after first picking up a camera. He used a Nikon D200 with 17–55mm f/2.8 Nikkor lens with a soft-edge ND filter.

Constant Optimism

Nuñez never gives up on a subject. "I return to locations where I've taken photos I like," he says, "to see how they can be improved."

After enough excusions, he learned not to get discouraged by the weather. One trip to McWay Falls in Big Sur nearly fell through when the sky was completely covered, with little chance of catching any of the sunset. Discouraged, his photo buddies bailed out. But, "stubborn guy that I am," he went anyway. It paid off. "For a mere 5 minutes during sunset, the sky opened up and lit up the cove beautifully." The photo is one of his favorite images.

CAMERA OF TH

THE FINALISTS» Many are tested. One is chosen.

What a year for cameras, especially DSLRs! And as this is written, there are still more to come before the page is turned on 2007.

In the past, we presented this award in the December issue. But this year, our print production deadlines are too early for us to be absolutely certain that we have already tested the product deserving what we believe is the highest honor in this field:

CANON EOS 40D

This 10.1MP camera keeps what we loved about the 20D and 30D—and offers major upgrades, such as new weatherproofing, better viewfinder, changeable focusing screens, more-sensitive AF, and live view with video out for watching your subject on a monitor. Sports shooters will crave the 6.5 fps burst rate. ($1,300, street, body only; $1,500 with 28–135mm f/3.5–5.6 IS AF lens)

FUJIFILM FinePix S5 Pro

This 12.3MP heavy-duty workhorse offers unusual flexibility in imaging control, particularly the ability to dramatically extend dynamic range. You can emulate film styles, including Fujicolor Pro color negative and Fujichrome. The Nikon mount lets you use any Nikkor lens or compatible third-party glass. ($1,800, street, body only)

NIKON D300

Seals and gaskets are just the beginning with this rugged, durable (150,000-cycle shutter life) 12.3MP newcomer. It offers live view with autofocus, and a 51-point AF system that can even track by color. And it promises super-low-light shooting. ISO 6400, anyone? ($1,800, street, body only; $2,100 with 18–135mm f/3.5–5.6G ED-IF AF-S DX Zoom lens)

OLYMPUS E-3

Just announced, this successor to the E-1 (there was no E-2) puts Olympus squarely back into the pro/advanced-amateur field. Boasting super-fast, super-slick autofocus, the 10.1MP E-3 has live view on the articulating 2.5-inch LCD, and tank-caliber build quality. With a new wireless flash system and lots of new lenses, it brings new gravitas to the Four Thirds system. ($1,700, estimated street, body only)

HE YEAR 2007

POPULAR PHOTOGRAPHY & IMAGING's Camera of the Year. The camera that best refined or redefined photography in 2007.

So with a phalanx of new DSLRs still to be tested in the field and the POP PHOTO Lab, we are proud to present the Finalists—those cameras that have already proven their mettle and those that appear to have the makings of greatness.

But, of course, only the POP PHOTO Lab, real-world shooting, and the experience and expertise of our editors can sort it all out. As soon as we make our decision, it will be posted on www.POPPHOTO.com/coty2007. So be sure to sign up for our free weekly e-mail newsletter, or check the site regularly for the breaking news.

PANASONIC Lumix L10

This 10.1MP starter DSLR can play in the majors. There's face detection for up to 15 mugs, live view on a swiveling LCD, and even classic film emulation modes. The standard lens is a Leica zoom designed for the Four Thirds system (2X lens factor) with state-of-the-art MEGA Optical Image Stabilization. ($1,300, street with 14–50mm f/3.8–5.6 Leica D Vario-Elmar lens)

PENTAX K10D

A 10.2MP pro-caliber DSLR at a soccer-parent price. The gaskets and seals are serious. The viewfinder is bright and highly accurate. Built-in Shake Reduction steadies any lens you mount (and there are millions, literally). You can correct and convert RAW files right in the camera. In all, it's a steal. ($700, street, body only; $750 with 18–55mm f/3.5–5.6 SMCP-DA AL AF Zoom lens)

SIGMA SD14

This well-built camera has become a cult favorite. It uses the unique Foveon X3 sensor chip, which captures images in three separate layers, much like film. Take off the IR cut-off filter, and you have a sophisticated infrared camera. Don't overlook the large catalog of Sigma glass. ($1,140, street, body only)

SONY Alpha 700

If you thought the A100 was something (and we did—naming it the 2006 Camera of the Year), check out this metal-bodied 12.2MP heavy-hitter. It's loaded! Super SteadyShot counters shake with any lens you can put on. It allows huge dynamic-range adjustments. The burst rate? Try 5 fps, limited only by the capacity of the memory card. ($1,400, street, body only; $1,500 with 18–70mm f/3.5–5.6 DT AF lens)

POPAWARDS 2007
The year's 25 greatest hits

We are not easily impressed. Hundreds of cameras and thousands of other products get our editors' scrutiny each year. There are a lot of yawns. And sometimes laughs: Have you seen the camera disguised as a birdhouse? So when something is truly wonderful or promising, we feel compelled to share it. That's why we have the POP Awards. Recognizing Photography's Outstanding Products, the POP Awards are a centerpiece of our annual Buyer's Guide, on newsstands now. With big photos and full descriptions of these impressive products, it's a don't-miss issue. You also can get details at www.POPPHOTO.com/special2008. Here are this year's 25 POP Award winners, the gear that will be basking in the limelight.

- ADOBE PHOTOSHOP LIGHTROOM 1.1
- BUFFALO TERASTATION LIVE
- CANON EOS 40D
- EPSON POWERLITE 1715C PROJECTOR
- EPSON STYLUS PHOTO 1400 PRINTER
- FUJIFILM FINEPIX S5 PRO
- HEWLETT-PACKARD PHOTOSMART C7180 ALL-IN-ONE PRINTER
- KODAK CUSTOM CREATIONS SOFTWARE
- KODAK EASYSHARE Z885
- MPIX BOOK SOFTWARE
- NIK DFINE 2.0 SOFTWARE
- NIKON D40X
- NIKON 55–200MM F/4–5.6G DX VR AF-S ZOOM-NIKKOR LENS
- NOKIA N95 5MP CAMERA PHONE
- OLYMPUS EVOLT E-510
- PANASONIC LUMIX DMC-TZ3
- PENTAX 70MM F/2.4 SMCP-DA LIMITED LENS
- RICOH CAPLIO GX100
- SAMSUNG L74WIDE
- SEKONIC L-758DR DIGITAL-MASTER FLASH METER
- SIGMA 18–50MM F/2.8 EX DC MACRO LENS
- SONY ALPHA 700
- SONY CYBER-SHOT DSC-H9
- TAMRON 18–250MM F/3.5–6.3 DI II MACRO LENS
- TOKINA 50–135MM F/2.8 PRO DX AF LENS

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By Michael J. McNamara

Prizefighter

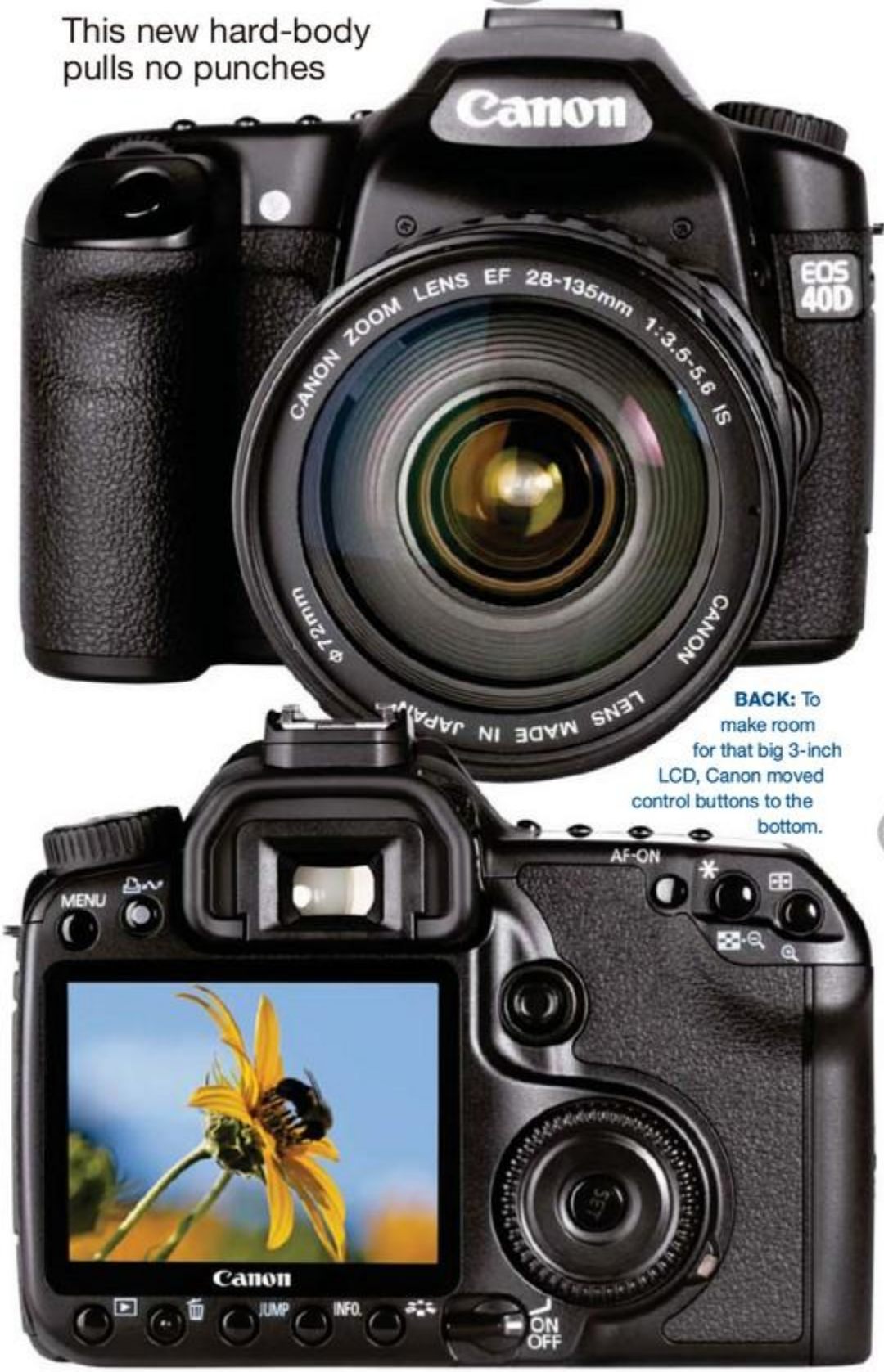
This new hard-body pulls no punches

Canon's EOS 30D was the DSLR middleweight contender to beat for most of 2007, thanks to its tough body, great image quality, fast autofocus, and semi-pro controls. So it's no surprise that the new 10.1MP EOS 40D ($1,300, body only, street; $1,500, street, with EF 28–135mm f/3.5–5.6 IS USM lens) holds fast to the 30D's overall body design and exposure controls. In fact, from the front it's hard to tell them apart.

Inside, though, Canon's engineers found ways to raise the 40D's image quality, boost its burst rate, speed up the AF system, and improve the viewfinder. Around back, they even squeezed in a 3-inch LCD with live preview mode.

Is there enough punch in the 40D's new features, and price to keep it from being knocked out by new contenders from Nikon, Olympus, and Sony? We'll know for sure in the next few months as we run all of those cameras through the POP PHOTO Lab and our field tests.

But after testing the 40D, one thing is certain: it's better than the 30D and a lot of DSLR for the money.



BACK: To make room for that big 3-inch LCD, Canon moved control buttons to the bottom.

WHAT'S HOT

- Great image quality.
- Live preview.
- User-changeable focusing screens.
- Fast 6.5 fps burst mode.
- Sensitive and fast AF.

WHAT'S NOT

- No wireless TTL flash controller in pop-up flash.
- Lens-based image stabilization adds cost to each IS lens.

WHO'S THIS FOR?

- Pros needing a lighter, rugged, backup body.
- Advanced shooters who want image quality, fast autofocus, and a live preview for macro photography.

CERTIFIED TEST RESULTS

IMAGE QUALITY (ISO 100–1600)

EXCELLENT

POOR ⟷ EXCELLENT

IMAGE QUALITY (ISO 3200)

EXTREMELY HIGH

POOR ⟷ EXCELLENT

RESOLUTION (ISO 100–1600)

EXCELLENT 2100

1100 1300 1500 1700 1900 2100

POOR ⟷ EXCELLENT

COLOR ACCURACY (AVG. DELTA E)

EXCELLENT 7.7

14 12 10 8 6

POOR ⟷ EXCELLENT

NOISE AT ISO

0.8 EXT. LOW	100
0.95 EXT. LOW	200
1.15 VERY LOW	400
1.49 VERY LOW	800
2.0 MODERATELY LOW	1600
2.9 MODERATE	3200

3.0 2.5 2.0 1.5 1.0 0.5

UNACCEPTABLE ⟷ EXTREMELY LOW

HIGHLIGHT/SHADOW DETAIL

VERY HIGH

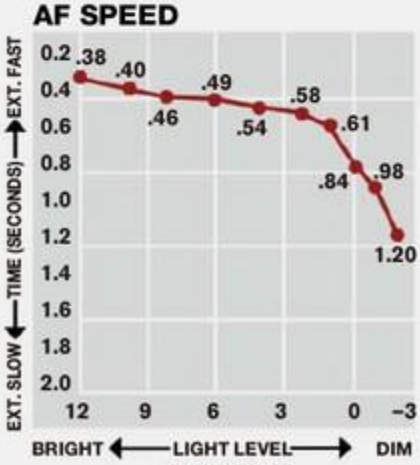
LOW ⟷ EXT. HIGH

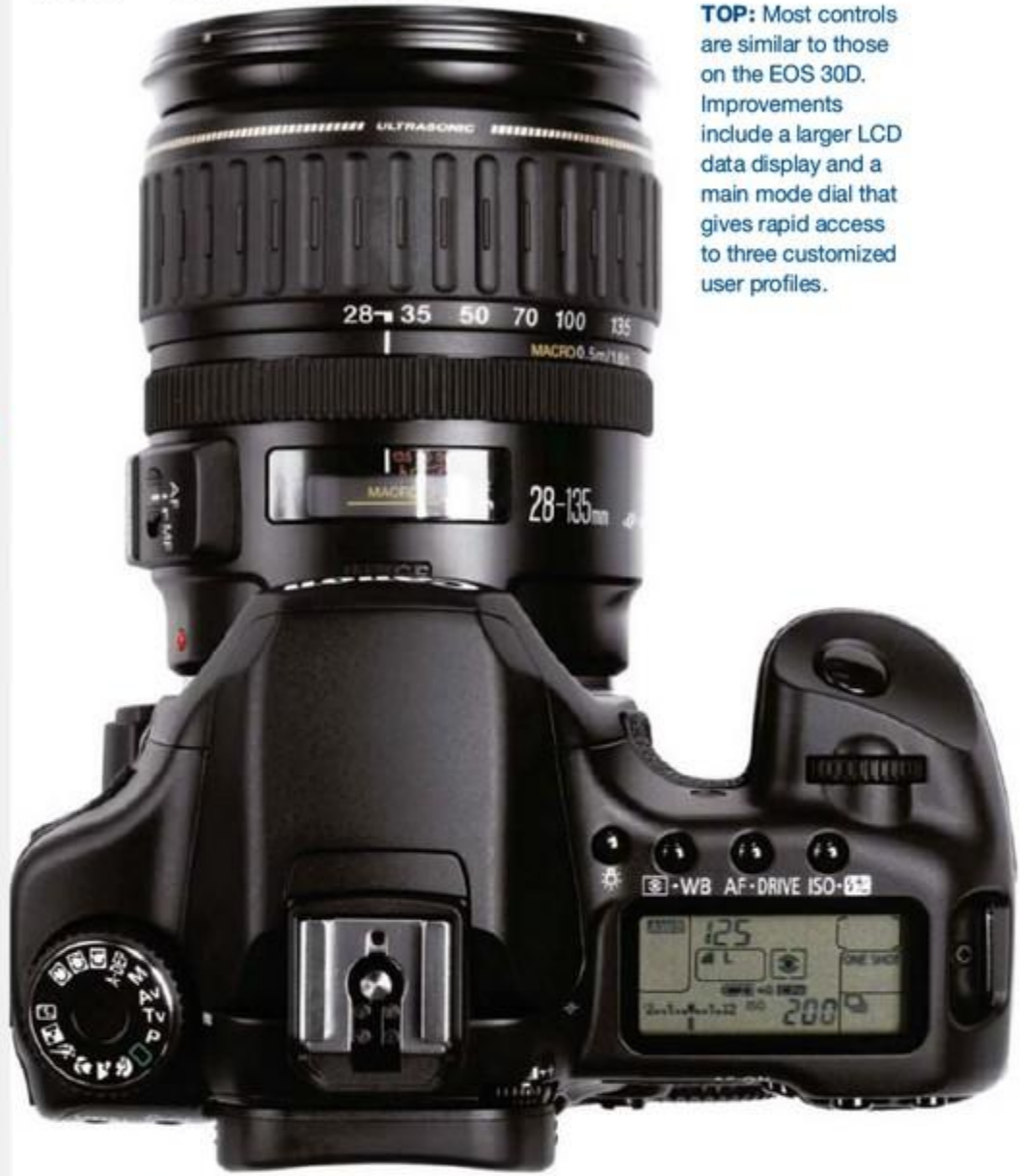
CONTRAST (AT DEFAULT SETTING)

SLIGHTLY LOW

LOW ⟷ HIGH

AF SPEED





TOP: Most controls are similar to those on the EOS 30D. Improvements include a larger LCD data display and a main mode dial that gives rapid access to three customized user profiles.

We were surprised that Canon upped the 40D's CMOS sensor only to 10.1MP (the same as its Digital Rebel XTi). By comparison, Nikon's older D200 ($1,500, body only, street) has a 10.2MP CCD, and the new Sony Alpha 700 ($1,400, body only, street) packs a 12.2MP CMOS.

But as we keep saying, megapixels are just one factor to consider when buying a camera. The 40D is a case in point: Improvements in sensor design, color accuracy, noise reduction at high ISOs, image processing, dynamic range, and AF accuracy have had a greater impact on image quality and performance than merely boosting the megapixels would have.

At the sensor level, Canon modified the microlens arrangement to increase the 40D's light sensitivity and reduce light falloff towards the corners. Next came the higher-powered DIGIC III image processor and a 14-bit per color A/D (analog-to-digital) converter.

As a result, the 40D's resolution averages 2100 lines from ISO 100 to 1600—nearly identical to the Digital Rebel XTi, up quite a bit from the 30D's 1720 lines, and only 100 lines below the pro-level 10.1MP Canon EOS-1D Mark III ($3,900, body only, street). Color accuracy also is Excellent at both ISO 100 (average Delta E of 7.7) and ISO 1600.

The biggest gains come in the form of lower noise at all ISOs, ranging from Extremely Low (ISO 100 to 200), to Low at ISO 800, Moderately Low at ISO 1600, and only up to Moderate at ISO 3200! These results were achieved without turning on the

COMPETITIVE SET

■Nikon D200 ($1,500, street, body only) The 10.2MP D200 remains in the Nikon line to directly compete with the 40D. And, to its credit, the Nikon offers similar resolution, Excellent tested image quality, and slightly better noise suppression at ISO 1600. Its shutter life and battery life are also competitive, plus it has an equally rugged, sealed body and an AF system that also works down to the same ridiculously dim –2 EV. However, the EOS 40D has a faster burst rate, more cross-type sensors in its AF system, user-changeable focusing screens, a larger 3-inch LCD, and the real kicker–live preview.

■Pentax K10D ($700, street, body only) Priced well below the 40D, the 10.2MP Pentax K10D competes on many fronts, including Excellent tested image quality, rugged body with dust and moisture seals, user-changeable focusing screens, metering and exposure controls, and system flexibility. The 40D outguns the K10D in AF speed, low-light sensitivity, burst speed, and resolution (about 10% higher), though the K10D delivers slightly less noise at ISO 1600. The 40D's 3-inch LCD and live preview are features it lords over the K10D (with its smaller 2.5-inch LCD), while the K10D fires back with sensor-based image stabilization that works with all Pentax-compatible lenses.

40D's High-ISO Noise Reduction, and are in the same class as that low-noise counter-puncher, the Nikon D200.

In all, the 40D earns an Excellent image quality rating from ISO 100 to 1600, and an Extremely High rating at its extended ISO of 3200.

In high-contrast field tests, the 40D captured plenty of detail in shadow and highlight areas, and in portrait tests, produced very smooth gradations and accurate skin tones. Improved image quality controls borrowed from the 1D Mark III include Highlight Tone Priority and High-ISO Noise Reduction.

The Gloves Are Off

Excellent image quality in the lab translates to excellent image quality in the field if a camera's autofocus, exposure and metering systems, and viewfinder are all top notch. And here, the 40D is hard to beat. Its AF system is among the fastest and most sensitive we've tested, capable of extremely high speeds in bright to moderate light, and decent performance down to EV –2.

Through the viewfinder you see an AF-zone array similar to the Rebel XTi's, but the 40D's nine zones have the more sophisticated cross-type sensors (active with all f/5.6 or larger-aperture lenses), plus a highly sensitive center zone that's active with lenses opening to f/2.8 or more. This improved AF speed and tracking accuracy will come in handy when shooting action and fast-moving subjects, especially in the 6.5-frame-per-second burst mode.

The fastest in its class, the 40D outguns the Nikon D200's 5 fps, and edges out the 6 fps of the new Nikon D300 ($1,800, street, body only) in its standard configuration. Using a 266X Kingston 2GB card, we captured 160 high-quality JPEGs at 6.5 fps, and continued to capture 1.5 frames every second until the card was filled. Shooting RAW? The buffer holds 17 shots, and you can set the camera to an sRAW mode for up to 20 RAW images (albeit at 2MP resolution) as well as sRAW + high-res JPEGs.

The AF and burst speed come thanks to the faster DIGIC III processor, which requires less energy than the DIGIC II, and even helps increase the CIPA battery life rating to 800 shots versus the 30D's 500 (using the same battery in both cameras, with 50 percent use of LCD image review).

The 40D's new live preview mode is a hot feature, giving you through-the-lens viewing on the 3-inch LCD, with a full data display under the image.

Unlike the 1D Mark III, the 40D's AF works in live preview. It's similar to the live preview AF on several Olympus and Panasonic DSLRs, and causes a short screen blackout while the mirror flips down and the camera focuses. Not the ideal AF method, but useful in some situations.

Manual focus is more useful in live preview, and you can maneuver a zone box over any part of the image, then zoom in to 5X or 10X magnification to fine-tune focus. Manual focus also gives you nearly instantaneous capture when you press the shutter, since the mirror doesn't have to swing out of the way. Live preview cuts battery life, though—Canon estimates up to 170 shots with it on. (Also because it drains the battery, avoid using a Microdrive CF card in live preview).

While live preview has its advantages (especially for macro photography or in an underwater housing), we expect that you'll use the LCD mostly to show off

VITAL STATISTICS

Imaging: 10.1MP (effective) CMOS sensor captures 3888x2592-pixel images with 14 bits/color in RAW mode. **Storage:** CF Type I and II cards including Microdrives and UDMA CF cards. Stores JPEG, RAW, RAW + JPEG, and sRAW (1936x1288-pixels). **Burst rate:** At 6.5 fps, up to 160 JPEG or 17 RAW. **AF system:** 9 selectable, cross-type AF points in a diamond pattern. One-Shot AF, Predictive AI Servo AF, and AI Focus AF (auto selects between one-shot and predictive). Sensitivity EV –0.5–18 (ISO 100). **Shutter speeds:** 30–1/8000 sec (1/3-EV increments). **Metering:** TTL 35-zone SPC. Evaluative metering linkable to all AF points, centerweighted averaging, partial (approx. 9% of frame), and spotmetering (approx. 3.5%). EV 1–20 (ISO 100). **ISO range:** 100–1600 in 1/3-EV increments, expandable to ISO 3200. **Flash:** E-TTL pop up, GN43 (at ISO 100). Supports E-TTL II autoflash with EX-series Speedlites, X-sync at 1/250 sec. **Viewfinder:** Eye-level fixed pentaprism with 95% accuracy and 0.95X magnification. **LCD:** 3-in. TFT with 230,000-dot resolution, 140-degree viewing angle, live preview mode with AF. **Output:** Hi-Speed USB 2.0; video. **Battery:** Rechargeable Li-ion BP-511A. CIPA battery life rating: Approx. 800 shots, 50% with flash. **Size/weight:** 5.7x4.2x2.9-in., 1.7 lb without battery. **Street price:** $1,300. **For info:** www.usa.canon.com.

VIEWFINDER TEST

Accuracy: 95% (Excellent)
Magnification: 0.95X (Excellent)

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IMAGE QUALITY: The EOS 40D's Excellent (tested) image quality, wide dynamic range, and high-performance AF system is obvious in this photo. Shot in RAW with the 28–135mm f/3.5–5.6 IS USM AF lens set to 85mm. Exposure was f/11, 1/500 sec, at ISO 200.

images, adjust menu items, and confirm focus and exposure. Though the screen is large and bright, its 230,000-dot (77,000-pixel) resolution is noticeably below that of the Sony Alpha 700's 3-inch, 307,000-pixel monitor.

For most shooting, the 40D's eye-level pentaprism viewfinder is a better choice. With slightly higher magnification than the 30D's viewfinder (0.95X, an Excellent rating), its data display now shows ISO speed and a b&w shooting mode. There are also three user-changeable focusing screens available for the 40D–rare in this class.

To accommodate the 3-inch LCD monitor, Canon had to reposition the control buttons that were to the left of screen on the 30D. We're not too keen on having these buttons (especially Erase) placed along the camera's bottom edge, where they'll get accidental pokes on rough surfaces and in tight camera bags. But we do like the addition of a dedicated Picture Style button (and software for customizing Picture Styles), as well as one for the camera's Silent Shooting mode.

Other differences from the 30D? A few ounces more weight and better weather and dust seals, including one on the card door. There's also a new electronic connector on the bottom for communicating with the new wireless file transmitter WFT-E3 ($800, estimated street). Like the optional battery grip BG-E2n ($220, street), the transmitter is weather- and dust-sealed, with a vertical shutter release–but not backward-compatibile with the 30D and 20D.

The built-in pop-up flash is similar to the EOS 30D's, with the addition of three custom exposure modes. Now, you can adjust the flash settings of a Canon Speedlite 580EX II directly from the camera, including those for wireless flash sync and control. However, Canon failed (once again!) to add wireless control to the pop-up flash, a feature found in most DSLRs of this caliber.

Some competitors (notably Olympus, Pentax, and Sony) also provide built-in image stabilization. Like Nikon and other Canon DSLRs, the 40D doesn't. To steady your shots, you need a higher priced IS lens, or the 28–135mm kit lens tested on page 95.

But if you can come to terms with those issues, the 40D is hard to fault. Especially when you consider its stellar image quality, speedy and sensitive AF performance, blazing burst rate, and useful live preview. In other words, it's a $1,300 knockout.✪

By Julia Silber

StableEyes

Canon 28–135mm f/3.5–5.6 IS USM AF

A full-frame Image Stabilizer, the Canon 28–135mm f/3.5–5.6 IS ($410, street) is sold both separately and as part of high-end Canon EOS 30D and 40D kits (adding only $200). We tested it years ago as a full-framer, but we wanted to see how it performs on the 40D's APS-sized sensor.

HANDS ON: As noted in our original test (June 1998), the lens is bulky for its class, handsomely finished in matte black, with finger-friendly zoom and focusing rings. Turning action is adequate. And we still find the AF motor eerily silent.

IN THE LAB: In DxO Analyzer 2.0 distortion tests (new since we first tested it), we found Visible barrel distortion (0.34%) at 28mm, as well as Imperceptible pincushion distortion at 70mm (0.07%) and 135mm (0.10%). This is noticeably better than Canon's 24–105mm f/4L IS lens, but slightly below average at the wide end by today's standards.

Light falloff was gone by f/4 at 28mm and nonexistent at 70mm and 135mm—dramatically better, of course, than in full-frame tests. Maximum magnification ratios went from 1:11.4 at 28mm (17.75 inches) to 1:3.8 at 135mm (15.25 inches).

In our new DxO blur factor tests, the IS gave our three testers 1.5 to 2.5 stops of extra handholdable sharpness, not a top performance by today's standards. This first-generation mechanism is also exclusively dual-axis, so it can't be used while panning.

Sharpness? As in its full-frame tests, the lens produced SQF numbers in the Excellent range at the three tested focal lengths. Surprisingly, the new numbers obtained from the image circle's central "sweet spot" were slightly less impressive. The reason may be that the lens isn't digitally optimized to transmit light perpendicularly to the D40 sensor's microlenses or to suppress internal reflections off the sensor's surface—which can compromise sharpness and contrast in a digital system.

CONCLUSIONS: Though starting to show its age, this zoom is a solid choice, especially at this price. ✪

Specifications

28–135mm (29.63–137.90mm, tested), f/3.5–5.6 (f/3.70–n.a., tested*), 16 elements in 12 groups. Focusing turns 150 degrees counterclockwise. Zoom ring turns 80 degrees clockwise. Focal lengths marked at 28-, 35-, 50-, 70-, 100-, and 135mm. ■ **Diagonal view angle:** 75–18 degrees. ■ **Weight:** 1.22 lb. ■ **Filter size:** 72mm. ■ **Mounts:** Canon AF. ■ **Street price:** $410.

*Not available due to instrument limitation.

Subjective Quality Factor

28MM

Size	5x7	8x10	11x14	16x20	20x24
3.5	94.1	94.0	92.0	86.2	79.1
5.6	95.3	95.2	92.5	87.2	80.7
8.0	96.2	95.1	92.3	87.0	80.5
11.0	96.1	94.9	92.1	86.6	79.8
16.0	95.0	94.7	91.8	86.0	78.8
22.0	94.8	94.1	90.7	84.1	75.8

70MM

Size	5x7	8x10	11x14	16x20	20x24
5.0	96.3	96.2	92.6	87.9	82.4
8.0	96.4	95.3	92.8	88.4	83.3
11.0	96.4	95.3	92.7	88.2	83.0
16.0	96.1	94.9	92.2	87.4	81.9
22.0	95.3	93.8	90.4	84.0	76.3
32.0	94.7	93.1	89.2	81.1	71.0

135MM

Size	5x7	8x10	11x14	16x20	20x24
5.6	96.5	96.4	92.8	87.4	80.6
8.0	96.6	95.5	93.0	87.9	81.6
11.0	96.7	95.7	93.3	88.6	82.7
16.0	96.7	95.7	93.3	88.5	82.4
22.0	96.3	95.1	92.4	86.6	79.3
36.0	95.6	94.3	90.8	82.5	71.4

key

Impact Protection
Profile
Professional User Spotlight
Gear
Nikon D200 with grip
50mm 1.4
70-200mm 2.8 AF-S ED
12-24mm
50mm Macro 2.8
18-35mm ED
Camera Armor
Josh Mackey
Digital Artist and Photographer
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By Dan Richards

AlphaBetter

Improvements from A to Z

BACK: Controls are clearly labeled, within easy reach. The C button can be programmed to any control; the Fn button activates the rear control panel.

Much as the Sony Alpha 100 was last year's breakthrough camera, the new Sony Alpha 700 ($1,400 street, body only; $1,900 with 16–105mm f/3.5–5.6 Sony DT lens) charges in as the very first 12MP-class consumer DSLR. As we've noted at www.PopPhoto.com, the A700 uses a 12.2MP CMOS imager in a rugged, weathersealed metal body. Viewing, autofocus, exposure, and image-processing systems are seriously upgraded from the Alpha 100.

In the Pop Photo Lab, the camera lived up to its advance billing in image quality, with Excellent resolution results throughout its ISO range. Performance was particularly strong at higher ISOs—1600 through 6400—where noise suppression causes many DSLRs to take a heavy hit in sharpness. At ISO 1600, resolution was 2160 lines average; at 6400, 2050 lines average. That equals or beats the Nikon D200 at ISO 100.

The A700 kept noise to Low or better through ISO 800, and Moderate through ISO 3200. Noise just barely

WHAT'S HOT

- Improved sensor-based IS.
- Fast, easy control menus.
- HD interface.
- Fast response, burst rate.

WHAT'S NOT

- No live view nor live video-out.
- Loud shutter sound.
- Nonstandard flash shoe.
- AF speeds slip in low light.

WHO'S THIS FOR?

- Advanced shooters who want high res and effective IS in a tough DSLR.
- Sony Alpha and Konica Minolta shooters waiting for The Serious Camera.

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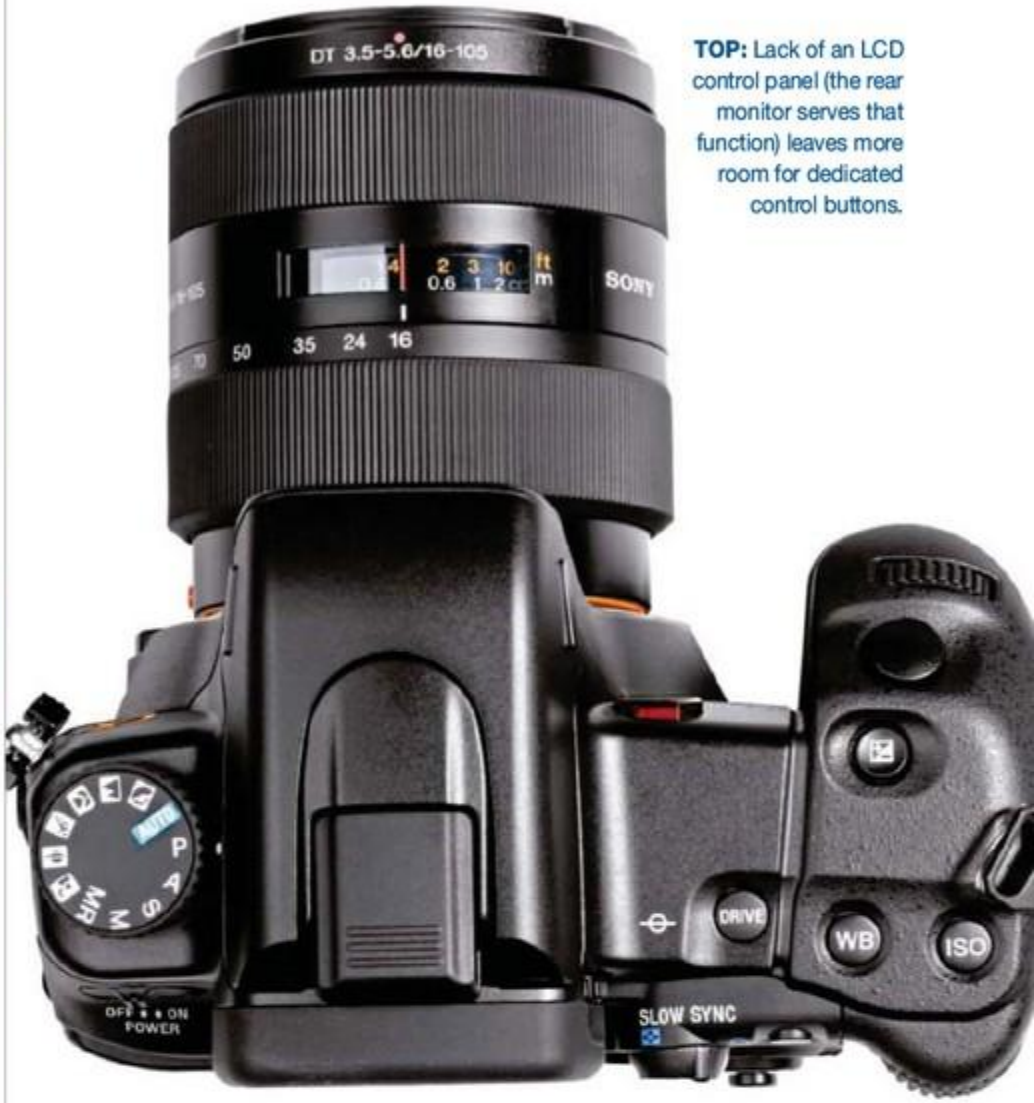


TOP: Lack of an LCD control panel (the rear monitor serves that function) leaves more room for dedicated control buttons.

slipped into the Unacceptable level at ISO 6400 with a score of 3.1. Though good, this isn't up to scores from the Nikon D80 or Canon EOS 40D, reviewed in this issue.

Still, given these numbers, and a color accuracy score of 8.9 (with 8.0 being the cutoff for Excellent), we judge the overall image quality Excellent up to ISO 800, and Extremely High through ISO 3200.

The A700's JPEG processing is clearly designed to emphasize image sharpness, especially at higher ISOs. Minimally adjusted RAW test images showed about 10 percent *lower* resolution than JPEGs—the reverse of what we usually see.

Quick Study

Sony claims greater speed and sensitivity with the new camera, though it uses a diamond-grid autofocusing array similar to the A100's. Our tests confirmed this—for the most part. It autofocuses faster than the A100 at EV 12 through EV 4 (bright to moderately low light), and works down to an inky EV –2, where the A100 fails to autofocus. But in very dim light (EV 2 through EV –1), the A700 is slower than its stablemate by a fraction of a second.

It also focuses faster than the Canon EOS 40D, Nikon D80, and Nikon D200 down to EV 4, then gives up a fraction of a second at EV 2 through –1. It's slower than the Canon at EV –2, but faster than the Nikons. And it focuses faster at all light levels than either the Pentax K10D or the Olympus Evolt E-510.

In daylight, with all 11 sensors and continuous AF activated, the A700 works very well for tracking a subject moving across the frame and for panning an irregularly moving subject.

We also tested Sony's claimed

burst rate of 5 frames per second, limited only by the capacity of the card. With a 2GB Kingston Ultimate 266X CF card in the camera, we set it to 12MP fine-quality JPEGs, and held down the shutter button. Exactly 1 minute later, it had devoured 300 shots (5 fps) and kept firing. While the Canon 40D and Nikon D300 have nominally faster burst rates (6.5 fps and 6 fps, respectively) they're limited by their buffer size to 75–160 shots.

The A700 can take up to 20 RAW or 12 RAW + JPEG shots at 5 fps. And it continued chugging away at a slower framing rate—more than 2 fps with RAW files, slightly less than 1 fps for RAW + JPEG.

The burst rate can slow down or stall with a slower memory card, as it did when we tested it with a 2GB Kingston Ultimate 100X CF. And if you want fast framing, don't use the Extrafine setting, a minimally compressed JPEG; the camera will start choking after 8 or 9 full-res frames. But otherwise, it's tough to miss a shot because the camera is too busy talking to the card.

Beat the Blur

During our first introduction to the A700, we suppressed a sneer when Sony told us the A700's Super SteadyShot could counteract shake for up to a 4-stop gain in handholding—that is, after all, what every sensor-shift maker claims, though it rarely, if ever, holds true.

But our blur-factor tests with our DxO Analyzer 2.0 showed an average gain among five shooters at more than 2.5 stops, with a top gain of slightly more than 3 stops. (That translates into handholding at 1/40 or 1/50 sec rather than 1/250 sec.) So while it didn't make 4, it beats the A100's 2 to 3 stops, and rivals many image-stabilized lenses.

The controls and handling of the A700 are nearly impeccable. We think advanced shooters will appreciate how, with just a little familiarity, its numerous buttons and switches actually speed up control.

Exposure compensation, ISO, white balance, drive mode, meter pattern, AE lock, image stabilization, manual-focus touchup, and focusing mode all have dedicated buttons.

CERTIFIED TEST RESULTS

IMAGE QUALITY (ISO 100–800)

EXCELLENT

POOR ⟷ EXCELLENT

IMAGE QUALITY (ISO 1600–3200)

EXTREMELY HIGH

POOR ⟷ EXCELLENT

RESOLUTION (ISO 100)

EXCELLENT 2280

1100 1300 1500 1700 1900 2100

POOR ⟷ EXCELLENT

COLOR ACCURACY (AVG. DELTA E)

EXT. HIGH 8.9

14 12 10 8 6

POOR ⟷ EXCELLENT

NOISE AT ISO

1.25 VERY LOW	100
1.3 VERY LOW	200
1.6 LOW	400
1.7 LOW	800
2.5 MODERATE	1600
2.7 MODERATE	3200
◀3.1 UNACCEPTABLE	6400

3.0 2.5 2.0 1.5 1.0 0.5

UNACCEPTABLE ⟷ EXTREMELY LOW

HIGHLIGHT/SHADOW DETAIL

VERY HIGH

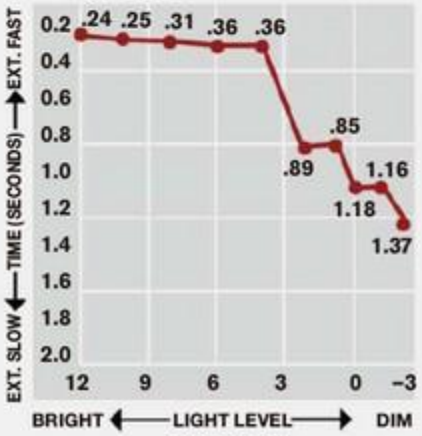
LOW ⟷ EXT. HIGH

CONTRAST (AT DEFAULT SETTING)

SLIGHTLY HIGH

LOW ⟷ HIGH

AF SPEED



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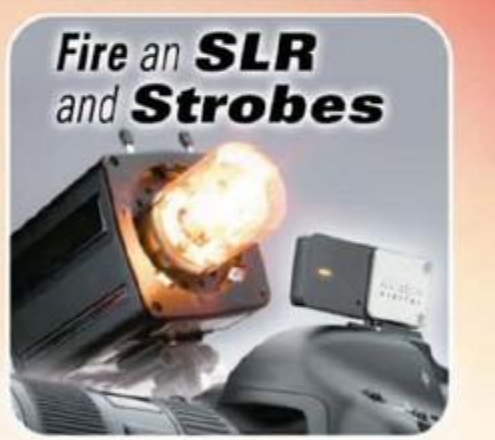

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COMPETITIVE SET

■Canon EOS 40D ($1,300 street, body only): While only 10.1MP, the new Canon midranger has nearly the resolution of the A700, a notch better noise control through ISO 1600, and higher color accuracy. The Canon lacks ISO 6400, and while it fires off JPEGs at 6.5 fps, it slows down after 75–150 shots, whereas the Sony keeps on firing at 5 fps. The Canon also has live view with AF. Many think the Sony's control layout is superior. Plus, the A700's image stabilization works about as well as most Canon IS lenses, although it lacks a panning mode. (See the full test of the 40D in this issue.)

■Nikon D300 ($1,700 estimated street, body only) It'll be interesting to see how Nikon does with essentially the same CMOS sensor as the A700's, given that Nikon has set the benchmark in noise control. The Nikon has live view with two flavors of AF, a 51-point AF array, 6 fps burst rate (although buffer-limited), and such niceties as AF tracking by color. The D300's D-Lighting controls may be as extensive as Sony's DRO. Sony's sensor-shift image stabilization saves money over the Nikon's VR lenses. (Our full test of the D300 will run in the magazine and at www.PopPhoto.com when we have a testable production model.)

This is in addition to two command dials, and a C (for custom) button that can be programmed for a single control of your choice.

The next layer of control comes by way of the function button, which makes the rear LCD go interactive. Using the joystick nub next to the screen, you can toggle through 11 controls. Plus, there's a full deck of menus. All this makes for redundant control sequences—there are three ways to make many settings.

On top of that, you can store up to three favorite camera setups, with 28 individual settings in each that are quickly accessible on the mode dial.

Bright Ideas

The A700's image adjustments include a refinement of the Dynamic Range Optimizer (DRO), which extends the shadow-to-highlight range of images on the fly, with no discernable slowdown in processing.

Standard DRO works something like Auto Levels in Adobe Photoshop, bringing up the brightness and adjusting contrast. It sometimes pushes highlights up too far and is best used in simple lighting that could use a small boost in shadow detail.

Advanced DRO does a more complex analysis of contrast and color to expand dynamic range. Let it work automatically (which tends to be conservative in bringing up shadow detail) or manually adjust the compensation to one of five levels.

We found the DRO very useful in fine-tuning shots in the camera. Moreover, JPEGs with any level of DRO can be simultaneously captured with a RAW or compressed RAW (cRAW) file. You can also autobracket by DRO or apply DRO settings later in supplied software.

The A700 has 14 image presets, including Sunset and Autumn, and you can tweak contrast, saturation, and sharpness within these. But we suspect advanced users will leave it set for Adobe RGB, using RAW capture for real image editing later.

The glass pentaprism viewfinder, with its tested 0.99X magnification, provides a bright view and clearly visible readouts below the picture.

The 3-inch, 921,600-dot (307,200-pixel) LCD provides photo-quality playback, and you can magnify the image up to 10X. The control screen rotates automatically when you turn the camera, and it shuts off automatically when you bring the camera to your eye.

The camera lacks live view. Sony says its marketing research showed that this feature wasn't important to experienced photographers. We think studio, macro, and underwater shooters might not agree.

With a magnesium-alloy exterior over an aluminum-alloy chassis, the A700 should withstand rugged duty. Buttons and switches are thoroughly gasketed against moisture and dust. A plastic ridge covers the memory card slots when the card door is shut, though we think a lip-seal around the door would work better.

Other goodies? An infrared wireless remote trigger is included at no extra cost. The rechargeable

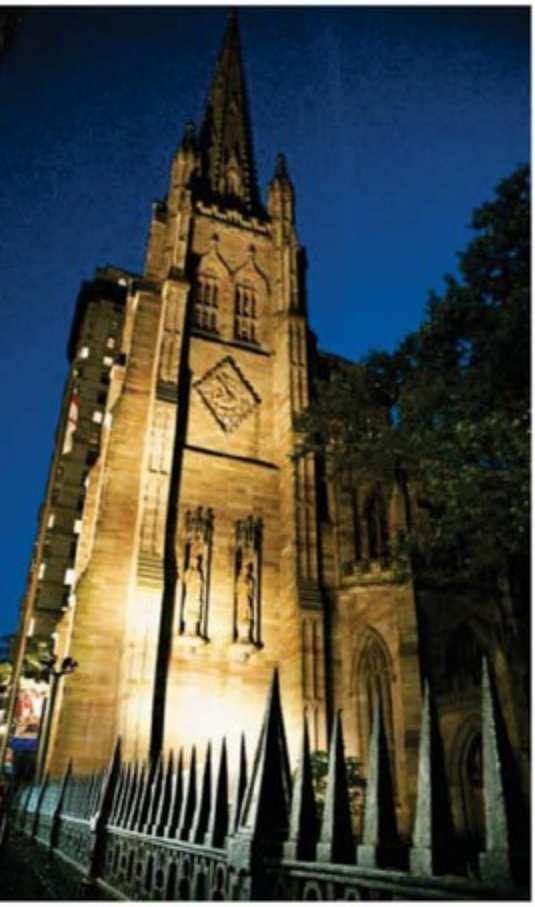


IMAGE QUALITY: This "available darkness" photo, taken with a 16–80mm f/3.5–4.5 Carl Zeiss Vario-Sonnar T* DT lens, was shot handheld at 1/20 sec at f/3.5, ISO 3200, using Super SteadyShot.

InfoLithium battery is CIPA-rated at 650 shots; the control panel displays precisely how much charge remains—a nice touch. There's an HDMI port for playback on high-def monitors and TVs. The included RAW converter/editor, though a bit sluggish, has an elegant, easy-to-navigate interface. Also included is remote-capture software that allows operation by a PC via USB cable.

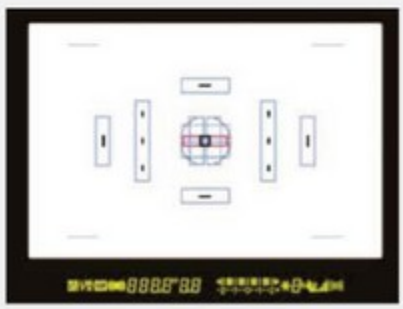
The Alpha 700 will most likely appeal to photographers who value fast response—namely sports, news, and wildlife shooters. Available-light photographers also will like the upgraded image stabilization and ISO 6400 setting that maintains resolution of more than 2000 lines.

Although the TTL flash system is sophisticated and flexible, Sony is due for an upgraded accessory flash.

You can expect Sony to keep its promise to aggressively fill in its lens line. After all, as the Alpha 700 proves, this company is very serious about DSLRs.

VITAL STATISTICS

Imaging: 12.2MP effective CMOS sensor captures images at 4272x2848 pixels with 14 bits/color in RAW mode. **Storage:** CompactFlash Type I/II including UDMA; Memory Stick Duo including PRO-HG. Stores JPEG, RAW, cRAW (compressed), RAW+JPEG and cRAW+JPEG files. **Burst rate:** 5 fps high-res Fine JPEGs up to the capacity of the card; up to 20 RAW or 12 RAW+JPEG (tested). **AF system:** 11 selectable AF zones with activation lights. Single-shot and continuous AF with fore-aft and across-the-frame tracking. Sensitive down to EV –2 (at ISO 100, f/1.4). **Shutter speeds:** 1/8000 to 30 sec plus B (1/3 or 1/2-EV increments). Image stabilization: Sensor-based, works with all lenses. **Metering:** TTL metering with 40-zone evaluative, centerweighted, and spotmetering (approx. 2.3% of viewfinder). EV 0–20 (at ISO 100). **ISO range:** 100–6400 (in 1/3-EV increments). **Flash:** Built-in pop-up unit with ADI and TTL autoflash plus manual control, GN 39 (ISO 100, feet), covers 16mm lens field of view. Flash sync to 1/250 sec, to 1/200 sec with Super SteadyShot engaged. Dedicated Sony/Minolta hot shoe. **Viewfinder:** Eye-level, fixed pentaprism. **LCD:** 3-in. transflective TFT with 307,200-pixel resolution. **Output:** Hi-Speed USB 2.0, HDMI video. PictBridge and PIM III compatible. **Battery:** Rechargeable InfoLithium M; CIPA rating, 650 shots, 50% with flash. **Size/weight:** 5.6x4.25x3.25 in., 1.7 lb with card and battery. **Street price:** $1,400, body only; $1,900 with 16–105mm f/3.5–5.6 Sony DT zoom. **For info:** www.sonystyle.com.



VIEWFINDER TEST

Accuracy: 95% (Excellent)
Magnification: 0.99X (Excellent)

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By Michael J. McNamara

HocusFocus

Working magic with AF

PRO CALIBER: The new Olympus E-3 is a giant leap forward from the older Olympus E-1, and boasts a better-sealed body, 10.1MP Live MOS sensor with live preview, pop-up flash, swiveling 2.5-inch LCD, and super-fast AF system.

If the Olympus E-1, the company's first high-end DSLR, never caught on among pros, you can blame its painfully slow, insensitive autofocus system. But one look at the new Olympus E-3 ($1,700, estimated street, body only) was enough to convince us that, this time around, Olympus has come up with not just a much better AF system, but a much better camera all around.

Our impression comes from using a preproduction, fully operational camera that wasn't ready for testing in the POP PHOTO Lab.

We expect it to do at least as well on the image quality front as the company's consumer-level Evolt E-510, since the E-3 packs a similar 10.1MP Live MOS sensor (manufactured by Panasonic). Because of its smaller size and 4:3 aspect ratio, the E-3 will also have a 2X 35mm lens factor. While 10.1MP isn't on the bleeding edge of resolution in this price category, the E-3's advanced image processing may suppress noise even further than the E-510 at ISOs up to ISO 3200.

The E-3 feels rock-solid, well balanced and easy to hold. The body, comprising a three-piece, molded, magnesium-alloy shell and impressive gasketing and weathersealing, alone puts it in pro territory.

Olympus improved the pentaprism viewfinder—larger, with better eye relief and none of the E-1's tunnel-vision effect. The company claims the viewfinder offers nearly 100 percent accuracy and 1.15X magnification.

Another noticeable improvement: Unlike its predecessor, the E-3 has both a pop-up flash and wireless flash control for three flash groups (with four channels each).

Kudos to the 2.5-inch LCD monitor, which can be swung to the side and turned up and down (for overhead or waist-level shooting), as well as turned inward for protection.

Most other new DSLRs in the E-3's price range sport larger LCDs, and the 3-inchers on the Nikon D300 and Sony Alpha 700 (tested in this issue) have nearly twice the resolution of the E-3's 77,000 pixels (230,000 dots). But the E-3's LCD is bright and provides sufficient detail to navigate menus or inspect images.

As with the Evolt E-510, the monitor can show the calming effects of the built-in, sensor-based stabilization system when live preview mode is turned on. It can also display camera exposure settings before shooting, simulate over- and underexposure settings, and zoom in up to 10X on any part of the image for manual-focus assist.

The autofocus system is highly sensitive and significantly faster, with selectable 11 AF zones. Olympus says that the AF's unique design uses a layered, slightly offset, CMOS sensor array to improve accuracy and low-light sensitivity. As a result, all 11 AF zones should be active cross-sensor types with any aperture lens. This may be the best AF system we've ever seen on an Olympus DSLR.

Olympus also claims it has increased the E-3's burst speed and capacity to 5 frames per second, up to the card's capacity for finest-quality JPEGs or 17 RAW images—still a little slower than the Canon EOS 40D or Nikon D300.

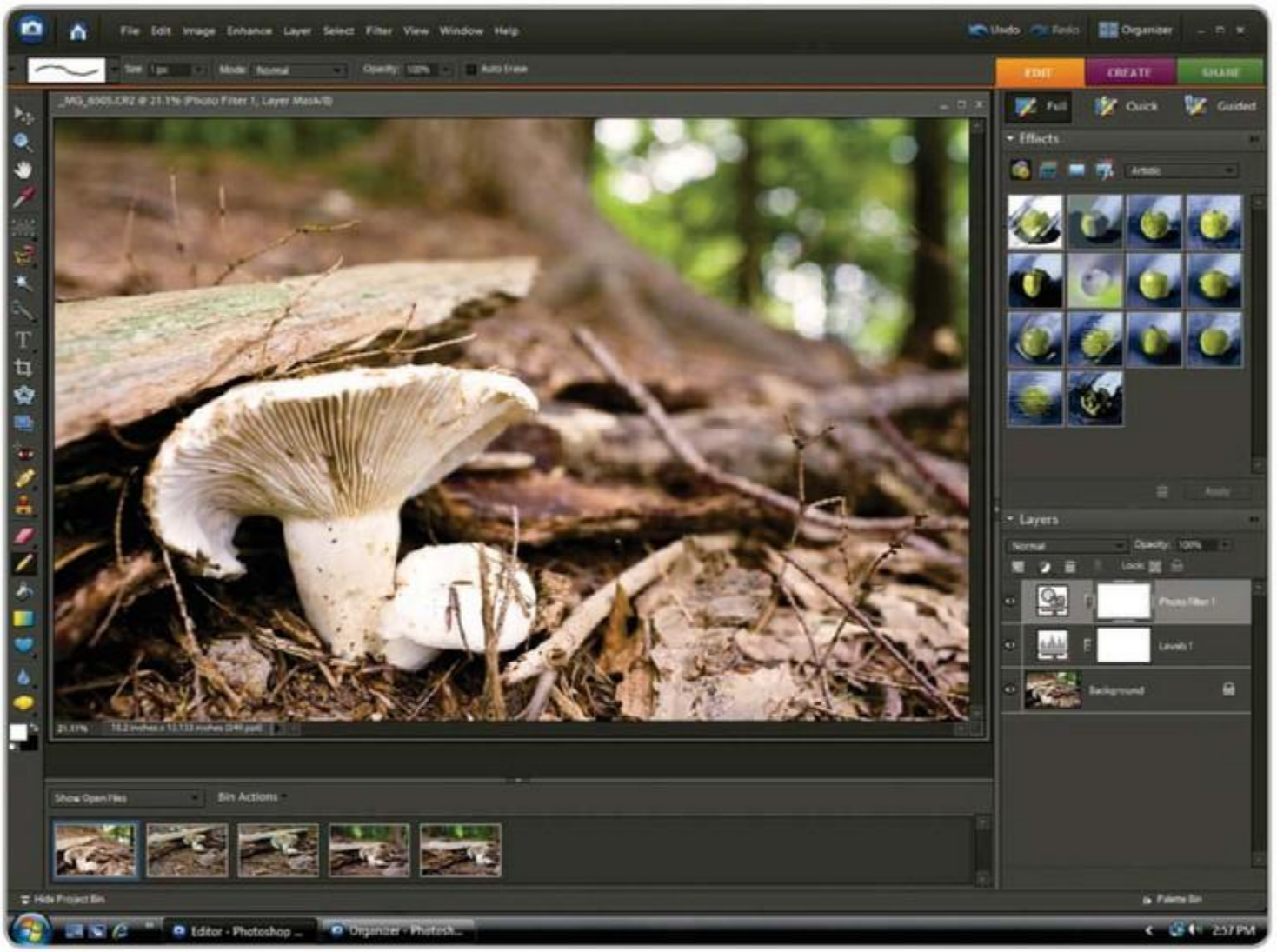
In all, the E-3 looks like the DSLR that Olympus promised to deliver to pros and advanced shooters.

ALEX BELOFF/FOTOUA.COM (LCD IMAGE)

CLEAN&CLEAR

Similar software with a slick new look

BY DEBBIE GROSSMAN



Although Adobe Photoshop Elements started its life as a stripped-down version of Photoshop, it has, since version 4, come into its own as a well-designed, simple to use, and powerful program.

Now in version 6 ($100, direct), it also remains the best first step for those with ambitions to learn Photoshop. This iteration is only an incremental step from Elements 5—there are a few cool new tools, but the biggest difference is the simplified and friendlier interface.

ELEGANT SPACE: Elements 6, now in *haute* dark gray, has a streamlined new workspace that allows your photograph maximum screen real estate. In Full Edit mode, shown here, you can work with Layers and use a multitude of tools.

Software designs change like fashion, and these days dark gray is the new light gray. (Witness the murkier shade of this year's Corel Paint Shop Pro Photo X2, Tiffen's Dfx software, and Adobe's Photoshop CS3.) The change happened for a reason—dark gray allows your pictures to pop off the screen, and the white type that replaced the black on the tools and menus serves a similar purpose.

The program still comes in two, separately operating, parts: an organizer and an editor. Folks who have considered Adobe's all-in-one workflow program Lightroom will see similarities in Elements 6's interface reorganization. Now, sets of functions are arranged by tab on the upper right part of the screen

TOOL KIT: Photomerge for portraits (left), helps you easily combine multiple mediocre group shots into one good one. And now you can process more than one image at a time in Camera RAW for Elements (right).

(Edit, Create, and Share in the editor and Organize, Fix, Create, and Share in the organizer).

The editor has a choice of three modes. Full Edit is the most Photoshop-like, and the only one that allows you to make edits and corrections using both Layers and Adjustment Layers. Quick Edit distills the feature set down to the basics; general, common fixes are all readily available in slider form. Guided Edit offers a text-based, choose-your-own-adventure approach to picture repair: It's a great way for novices to get started, but unfortunately it doesn't point out the names of the tools, so when you're ready to graduate, you may not know what to look for.

The most practical, powerful, and fun new tool in Elements 6 is the new Photomerge Group Shot. A whole group of people never looks good in every shot; this makes it easy to combine them from separate photos. You can quickly select the heads or bodies you want, and watch as Elements merges them into one perfect picture. (Let's hope this gets added to Photoshop CS4.)

Elements' RAW converter is still unmatched by any other similarly priced picture-editing program. In fact, Camera RAW is the exact same program that comes with CS3, although opening it via Elements prevents certain higher-level features from showing up.

So should you upgrade? If you're a dedicated Elements user who hasn't gotten a new version since 3 or 4, the answer is a resounding yes. If you're happy with 5 but are sick of that old-school light gray, or if you do a lot of group shots, go for the newest version. This is still a program that's hard to beat for anyone who's not up for spending $650 on Photoshop CS3.

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FILTER MADNESS

INFINITE VARIATION: The blue-orange dual grad filter, among others (above) imparts an otherworldy quality. A neutral-density filter and a polarizer added punch to a sky (top right) and the three-strip filter (bottom right) birthes a Technicolor cow.

Your favorite filters, in software form

If you already spend way too much time messing with your pictures on the computer, do yourself and your loved ones a favor: Don't buy Tiffen's Dfx software. Because once you start using it to create an infinite variety of wacky, beautiful, and superior versions of your favorite or failed photographs, there's a good chance you won't want to stop.

Tiffen is one of the most well-known and established brands in optical filters—those pieces of glass that you presciently attach to your lens to make sure your pictures turn out just as your mind intended.

With its new software, Tiffen turned its filters into code, so you don't need to predict your photo's outcome before you take it.

You can choose between a Complete set of filters ($200, direct) and a pared-down Select version ($100). The software also comes in the form of a plug-in that works with Adobe Photoshop or Elements ($300 for Complete; $160, Select). If you're a professional video editor, you can even get a version to work with your video-editing software ($600).

I tested the Complete standalone version because it gives you the most filters for your money, and I've found that the software works very well when you've already perfected your file in an image editor.

The program's layout is extremely straightforward, making it easy to add filters to your images without checking the manual. Everything you need is visible: In the center sits your image; below it, tabbed categories of filters and effects, each represented by a thumbnail preview of the picture you're working on.

You can layer filters on top of one another on the left of the screen, and choose variations on a filter or use the Parameters tab to create your own modified version on the right. And powerful masking tools make it simple to apply a filter only to a given area.

With the Complete version, you get GamColor and Rosco gels, HFX diffusion and grad/tint filters, star filters, ones that mimic gold or silver reflectors, a huge array of warming and cooling filters, plus goofy and cool special effects, such as X-ray and night vision, that never could have existed as optical filters. You can add vignettes, do selective focusing, make dramatic skies with split neutral-density filters, and pop on a virtual Glimmerglass or Pro-Mist filter for glamour portraits.

Standalone versions are color-managed, allowing you to choose the working space and bit-depth.

While Dfx opens RAW files, its converter is fairly meager. And although the idea of a digital graduated neutral-density filter or polarizer is amazing, it still cannot bring back highlight detail that's absent in the original file.

Those caveats aside, we highly recommend that filter aficionados download the 15-day free trial and check this one out. (For more info: www.tiffen.com)

LENS TEST

By Julia Silber

BrightIdea

Pentax SMCP-FA 50mm f/1.4 AF

This high-speed, normal prime ($199, street) has been around for a decade. Why test it now? No other lens in the current Pentax catalog can throw backgrounds into creamy defocus like this. Even better, on a Pentax K10D, K100D, or K100D Super DSLR, it scales up to a medium-tele 75mm, a fine choice for portraits. Better still? The low price.

HANDS ON: A half-inch shorter and several ounces lighter than comparable Canon and Nikon 50mm f/1.4s, this full-framer predates digital. The small, rubber-clad, manual-focus ring's turning action is a bit rough. Distance scales are large and easily legible; ditto for the depth-of-field scale (remember those?). The AF action on our test camera, the Pentax *ist DL, was rapid and quiet.

IN THE LAB: SQF data showed sharpness and contrast in the Excellent range. DxO Analyzer 2.0 tests found only Imperceptible barrel distortion (0.08%), on par with the Nikon and better than the Canon, with Slight barrel distortion. Light falloff was gone by f/2, much better than Nikon's f/1.4, which showed vignetting to f/4. Its maximum magnification ratio at the 16.75-inch close-focus distance was 1:6.0—beating not only the Canon and Nikon but Pentax's claim of 1:6.6.

CONCLUSIONS: Sharp, bright, and practically distortion-free, this lens deserves a place in any Pentax shooter's bag. Wedding photographers, in particular, will like it for its defocused backgrounds, low-light performance, and focal length well suited to two-up verticals.

Specifications

50mm (51.93mm tested), f/1.4 (f/1.45 tested), 7 elements in 6 groups. Focusing turns 140 degrees clockwise. ■ **Diagonal view angle:** 47 degrees. ■ **Weight:** 8 oz. ■ **Filter size:** 49mm. ■ **Mounts:** Pentax AF. ■ **Street price:** $199.

Subjective Quality Factor

50MM	Size	5x7	8x10	11x14	16x20	20x24
	1.4	96.9	96.8	93.7	88.8	82.0
	2.0	97.1	96.9	94.0	89.3	83.4
	2.8	97.2	96.9	94.3	89.9	84.4
	4.0	97.3	96.7	94.2	91.1	86.3
	5.6	97.6	96.9	95.2	91.8	87.5
	8.0	97.6	97.1	95.1	92.4	88.5
	11.0	97.6	96.7	94.8	91.3	86.8
	16.0	96.9	95.9	93.6	88.9	83.0
	22.0	96.4	95.5	92.7	87.2	80.3

110

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SENSITIVE EYE: The X-Rite Eye-One Photo LT ($720, street) spectrophotometer can help calibrate and profile your entire system, from monitor to print.

Which Calibrator Should I Buy?

I want to balance my 23-inch LCD monitor to match the colors in the 13x19-inch fine art prints I make to sell online and at local galleries. Ink and paper mistakes are costly, so what calibrator can help me get it right the first time?

Color calibrators are available in a range of prices and capabilities. If you already have accurate color profiles for the papers you're using in your printer (often supplied by the printer manufacturer), then an affordable monitor calibrator such as the Pantone hueyPRO ($110, street) should do the trick.

The hueyPRO calibrates and profiles LCD and CRT monitors, and offers advanced controls for gamma, brightness, and contrast. It also can be set to adjust screen colors automatically, based on changing ambient lighting.

But for specialty fine-art and coated papers from suppliers other than your printer's manufacturer, or to fine-tune your current paper profiles, the X-Rite Eye-One Photo LT ($720, street) may pay for itself.

This compact, handheld spectrophotometer is bundled with a calibration plate and a small test chart (shown) that only takes a few minutes to print and measure. The accompanying Eye-One Match LT software (for PC or Mac) generates custom paper profiles for most RGB-color printers, including inkjet, laser, and dye-sub models.

The Eye-One Photo LT is more precise and much faster than the colorimeters found in most monitor calibrators, measuring up to 300 patches in 1 minute.

It also calibrates and profiles all types of LCD, CRT, and laptop monitors. And it measures the ambient color temperature of the light in your room or viewing booth, or even from your camera's flash.

As your business expands, the system can be upgraded to profile CMYK printers, scanners, digital cameras, and projectors. (For more info: www.xrite.com)

Heliopan: SH-PMC digital/film filters eliminate reflections up to 99.9% and repel dust and moisture.

Gepe Card Safe Extreme: The better memory card protector. Holds any combo of 4 CF, SM, SD & MS cards.

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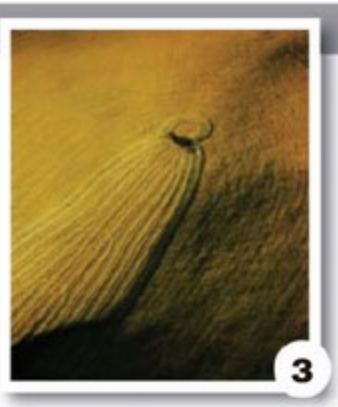
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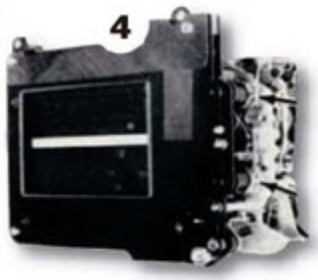
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1. Christmas Rolls: This impressionistic photo of a Rolls-Royce parked in Rockefeller Center near the giant Christmas tree was by Hugues Colson on assignment for the book *Manhattan*. He used a tripod-mounted 35mm SLR and 50mm lens. Exposure was 1 sec at f/4, the best of a bracketed series, on Ektachrome 64.

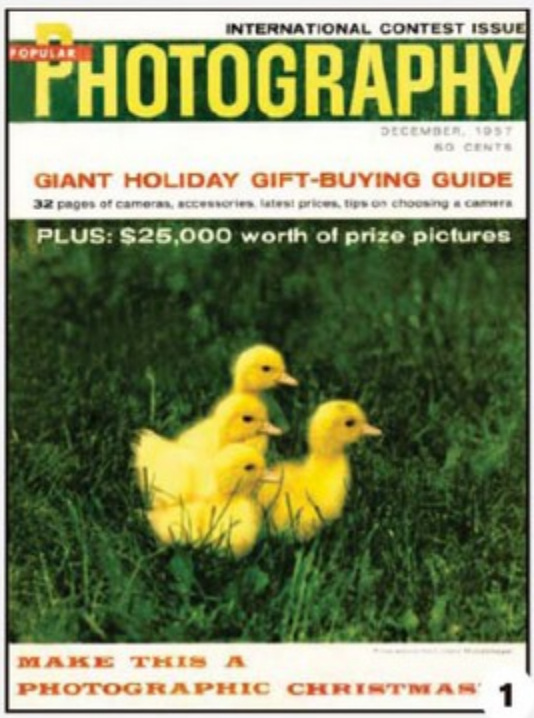
2. History lesson: New York's Museum of the American Indian exhibited portraits of Native Americans by relatively unknown 19th-century photographers. This portrait was taken by F.A. Rinehart in about 1900.

3. America the beautiful: Famed flying photographer William Garnett dedicated himself to showing the beauty of America from the air. Typical is this picture of Montezuma Hills, CA, taken in 1970. Garnett used various cameras and lenses, depending upon the picture he wanted. The film was Kodachrome 64 Daylight.

4. Superspeed Nikon: A Stripdown Report on the Nikon FM2 35mm SLR, with its 1/4000-sec shutter, revealed the secret of its amazing performance–a powerful mainspring and special titanium blades that combined lightness with strength. Our editors gave the FM2 high marks for its innovative features and improved handling capability.

1930 | 1940 | 1950 | 1960 | 1970 | 1980 | 1990 | 2000

50 YEARS AGO
DECEMBER 1957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PLUS: $25,000 worth of prize pictures
MAKE THIS A PHOTOGRAPHIC CHRISTMAS
1

2

3

4

1. Peeking ducks: The cover photo, a prizewinner in our 1957 picture contest, was made by amateur Ludwig Munchmeyer of Hasbrouck Heights, NJ. He used a Leica IIIf with a 90mm f/4 Elmar lens. Exposure was 1/100 sec at f/5 on Daylight Kodachrome.

2. Valuable imitation: Billed as having the features of "That Famous High-Priced" 35mm camera, this Leica-lookalike Tanack was priced at $169.50 with f/2 Tanar lens. The irony is that today this imitation, as a rare collectible, is valued at more than the original screw-mount Leica III, with recent prices in the $300 to $400 range.

3. Poetic prizewinner: This poetic photo by Tom Nebbia of Columbia, SC, captured the $2,000 First Prize for Black-and-White in POPULAR PHOTOGRAPHY's International Picture Contest. Nebbia used a 4x5 Pacemaker Graphic with a 135mm f/4.7 Optar lens. The exposure on Kodak Royal Pan sheet film was 1/200 sec at f/11 using daylight.

4. Interchangeable rangefinders: Almost all interchangeable-lens cameras had a built-in rangefinder to accommodate various lenses. This unique 35mm Akarex III used interchangeable lens units, each with its own rangefinder that fit onto the camera body. Four Schneider lenses in focal lengths from 35mm to 90mm were available. The basic price for the camera with 50mm f/2 Xenon was $139.50. The body alone sold for $59.50.

YOUR QUESTIONS ANSWERED

Fill up on filters

I recently started to use a polarizing filter for landscapes and have been very happy with it. When it works, it really works. Now I would like to experiment with other filters that might have similarly dramatic effects. What do you recommend? And, should I get single filters or invest in a system?

Anthony Campanelo
Salisbury, CT

Since you're into landscapes, your next purchase should probably be a split neutral-density (ND) filter. Essentially a High Dynamic Range tool, it will help you capture extra highlight and shadow detail in scenes with more dynamic range than your chip or film can capture in a single exposure. For a typical landscape with, say, a lake below and sky above, you would place the light-blocking half of the split ND over the (usually bright) sky to bring its exposure into line with that of the lake. Result: a perfectly exposed image of an imperfectly lit subject.

As for the kind of filters, it depends on the number and types of lenses you use. Systems like those by Cokin and Lee are based on holders that mount on different-sized lenses. One holder and polarizer, therefore, could work for most of the lenses you own. The downsides? You're locked into a single line of filters, and sometimes the holders can be awkward. For extremely wide or long lenses, you often have no choice but to buy filters for each.

Tripod paradox

Sometimes the airlines let me carry on a tripod, other times I'm forced to check it. What's the actual rule?

Terry O'Reilly
Delmar, CA

According to a TSA rep at Newark (NJ) Liberty Airport, synthetic tripods (i.e., carbon fiber) can be carried on, while metal ones must be checked. The reasoning? A terrorist could somehow fabricate a gun from a metal tripod, but not from a plastic one. Whether the tripod can be used as a club does not seem to be a concern.

Move on up

I am ready to move up to Nikon's D80 or D200 with the 18–200mm f/3.5–5.6 VR lens for shots of local football games (i.e., players, marching band, and drill team), but will need more reach than that lens affords. I intend to get Nikon's 2X teleconverter. Will it affect the VR?

Rodney VanSickle
Mesquite, TX

Unfortunately, Nikon's AF-S teleconverters are matched to specific telephoto lenses, mostly primes, and will not work with the 18–200mm VR lens. If you could give up VR (it won't help you freeze action, after all), consider the 70–200mm f/2.8 AF-S Nikkor ($1,615, street), a superior lens that is compatible with the TE-20E 2X teleconverter. Since you'll probably use a monopod, you may actually need the 2X reach more than the VR—and that f/2.8 will give you the faster shutter speeds necessary for sports. (NB: Nikon's 18–200mm VR is in such high demand worldwide that it's very difficult to get in the U.S. outside of a D200 kit.)

Foiled by the flash

I'm trying to use an older accessory hot-shoe flash on my new DSLR. The built-in flash works fine, and the accessory flash fires, but the pictures come out black. Is there a work-around?

Larry Thompson
Decatur, IL

Sorry, Larry. Some film-era flashes will not automatically sync with today's DSLRs. If you need more power than you're getting from your built-in flash, try manually popping your shoe-mount during longer exposures, or try second-curtain-syncing, if the flash offers it. Your best option, though, is to buy a digitally compatible flash.

Date sensitive

I recently inherited four Canon film cameras and am trying to learn when each was made. I couldn't find anything on Canon's website.

Tom di Santorini
Montclair, NJ

Canon's U.S. website doesn't offer much, but the main corporate site in Japan hosts the Canon Camera Museum (www.canon.com/camera-museum), which lists dates and specs for most of its cameras. For more specificity, Canon guru Bob Atkins explains that Canon stamped production codes in the film chambers of most camera bodies. The initial letter indicates the year: A is 1960; B, 1961; C, 1962; etc. "T0640F," for example, indicates a camera made in June (06) of 1979 (T) at Canon's Fukushima plant (F). For more, visit Atkins' website, www.bobatkins.com.

Got a question? E-mail us at PopEditor@hfmus.com or visit the Tech Support forum at www.PopPhoto.com.

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24/1.8 EX-DG	329.00	329.00	329.00	329.00	329.00	329.00
28/1.8 EX-DG	269.00	269.00	269.00	249.00	—	—
30/1.4 EX-DC	—	399.00	399.00	—	399.00	399.00
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70-200/2.8 EX HSM Macro	–	869.95	869.95	—	869.95	—
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3 WAYS TO VOID YOUR WARRANTY

BY KATHLEEN DAVIS

Now that you've bought a new DSLR, make sure that you don't make one of these mistakes, each guaranteed to void your camera's warranty.

1 **eBay Batteries:** If you buy a battery anywhere other than a reputable dealer, even if it has the manufacturer's name on it, there's no way to know if it's legit. Knock-off batteries can fry your camera, and if it's not made by your camera company, the damage won't be covered.

2 **1970s Flash:** We know you love your Vivitar 283 and 285 flashes, but save them for your old film cameras. Flashes from the 1960s and 1970s often have voltage that is too high for new cameras. Rather than risk frying your circuitry (and voiding your warranty), buy a new flash. If you must use an older flash, try a Wein Safe Sync ($50, street) to regulate the voltage.

3 **Gluing Anything:** Most DIY repairs will void your warranty, especially if you touch anything inside your camera. Need to make a quick fix before taking your camera in for repairs? Use gaffer tape. A photographer on SportsShooter.com reported that the fumes from strong adhesives such as cyanoacrylate-based glue (e.g., Superglue, Krazy Glue) melted the sensor on his lightmeter.

SPEAKING OF PHOTOGRAPHY

COMPILED BY MATTHEW HOLDEN LEWIS

QUOTES

"The shortest road to oneself goes around the world."

HENRI MICHAUX

"Photography is an imprint or transfer of the real; it is a photochemically processed trace causally connected to that thing in the world to which it refers in a way parallel to that of fingerprints or footprints or the rings of water that cold glasses leave on tables."

ROSALIND KRAUSS

"Every successful photograph, except for lucky shots, begins with an idea and a plan. The more precisely a photographer knows what it is he wishes to do, the better the chances are that he will do it."

ANDREAS FEININGER

"The image has become the queen of our age. We are no longer content to know—we must see."

JEAN PROUVOST

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KENNETH LIBBRECHT

From *The Art of the Snowflake: A Photographic Album* (Voyageur Press, 2007)

"I was interested in the science of crystal growth and pattern formation, and I was shocked to discover how little is known about how snowflakes grow. And there weren't many good pictures. Now I've got a homemade microscope that fits in a suitcase, and I take it up to the frozen North to find snow. A good microscope with a photo attachment costs about $20,000, and it's not optimized for subjects this big. So I started buying parts and putting them together. The other fun part is the lighting. The crystals are clear and colorless, so I play around a lot with the color, using colored filters. I shoot a pattern with my old film camera and use the 2x2-inch slides as filters." *(For more on these images, go to www.snowcrystals.com.)*